

AD-A130 579

SEMIOTICS AND THE STUDY OF OCCUPATIONAL AND
ORGANIZATIONAL CULTURES(U) ALFRED P SLOAN SCHOOL OF
MANAGEMENT CAMBRIDGE MA S R BARLEY JUN 83
MIT-WP-0116/09H N00014-80-C-0905

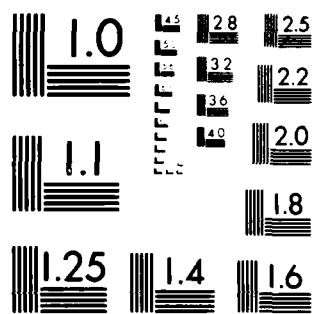
1/1

UNCLASSIFIED

F/G 5/11

NL

END
DATE
FILMED
8 83
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER TR ONR 18	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Semiotics and the Study of Occupational and Organizational Cultures		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) Stephen R. Barley		6. PERFORMING ORG. REPORT NUMBER TR ONR 18 /MIT WP 0116H
9. PERFORMING ORGANIZATION NAME AND ADDRESS Sloan School of Management Massachusetts Institute of Technology 50 Memorial Drive Cambridge, MA 02139		8. CONTRACT OR GRANT NUMBER(s) N0014-80-C-0905: NR 170-911
11. CONTROLLING OFFICE NAME AND ADDRESS Office of Naval Research Organizational Effectiveness Group (Code 442) Arlington, VA 22217		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Office of Naval Research Resident Representative MIT -- E19-628 Cambridge, MA 02139		12. REPORT DATE June, 1983
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release: distribution unlimited		13. NUMBER OF PAGES 52
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		15. SECURITY CLASS. (of this report)
18. SUPPLEMENTARY NOTES Forthcoming in Administrative Science Quarterly, , 1983.		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Semiotics Funeral Directing Organizational Culture		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Semiotics offers an approach for researching and analyzing systems of meaning that undergird occupational and organizational cultures. Following a synopsis of semiotic theory, this paper presents data from an ethnosemantic study of a funeral home and demonstrates that semiotically identical codes structure a funeral director's understanding of his various tasks. The analysis not only suggests that semiotic research captures the redundant themes which characterize insiders' interpretations of this work world, but that it is also sensitive to the mundane, but critical, aspects of a culture. Finally, the study shows how semiotic research can elucidate rules by which members of a work culture consistently and coherently generate meaning.		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-02-1-401

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

83 07 21 036

ADA130579

DTIC FILE COPY

DTIC

ELECTE

JUL 22 1983

A

ONR

N00014-80-C-0905

NR 170-911

Massachusetts Institute of Technology
Sloan School of Management
Cambridge, MA 02139

TECHNICAL REPORTS IN THIS SERIES

- TR-1 Edgar H. Schein. "Does Japanese Management Style have a Message for American Managers?"
January, 1982, Sloan Management Review; Fall, 1981.
- TR-2 John Van Maanen. "Some Thoughts (and Afterthoughts) on Context, Interpretation, and Organization Theory"
February, 1982.
- TR-3 John Van Maanen. "The Mobilization of Effort: Sergeants, Patrol Officers, and Productivity in an American Agency"
February, 1982.
- TR-4 Lotte Bailyn. "Inner Contradictions in Technical Careers"
March, 1982; Working Paper 1281-82.
- TR-5 John Van Maanen & Deborah Kolb. "The Professional Apprentice: Observations on Fieldwork Roles in Two Organizational Settings" forthcoming in S.B. Bacharach (ed.), Research in Organizational Sociology, Vol. 3., Greenwich, CT: JAI Press, 1983.
June, 1982; Working Paper 1323-82.
- TR-6 Lotte Bailyn. "Problems and Opportunities for the Maturing Engineer"
June 1982.
- TR-7 W. Gibb Dyer, Jr. "Patterns and Assumptions: The Keys to Understanding Organizational Cultures"
June, 1982.
- TR-8 Lotte Bailyn. "Work and Family: Testing the Assumptions"
August, 1982.
- TR-9 Jeanne Lindholm. "Mentoring: The Mentor's Perspective"
September, 1982.
- TR-10 John Van Maanen & Stephen R. Barley. "Occupational Communities: Culture and Control in Organizations" forthcoming in B. Staw & L.L. Cummings (eds.) Research in Organization Behavior, Vol. 6, Greenwich, CT: JAI Press, 1983.
November, 1982.
- TR-11 Lotte Bailyn and John T. Lynch. "Engineering as a Life-Long Career: Its Meaning, Its Satisfactions, Its Difficulties"
November, 1982.

- TR-12 Edgar H. Schein. "The Role of the Founder in the Creation of Organizational Culture."
March, 1983
- TR-13 Edgar H. Schein. "Organizational Culture: A Dynamic Model
March, 1983
- TR-14 Barbara S. Lawrence. "Age Grading: The Implicit Organizational Timetable."
April, 1983
- TR-15 John Van Maanen. "The Boss: First-Line Supervision in an American Police Agency" reprinted from Maurice Punch (ed.) Control in the Police Organization, MIT Press, 1983.
April, 1983
- TR-16 Meryl R. Louis and Barry Z. Posner. "Socialization Practices, Job Satisfaction and Commitment." Presentation, Western Division, Academy of Management, March, 1983.
April, 1983.
- TR-17 John Van Maanen. "Doing New Things in Old Ways," forthcoming in Journal of Higher Education, Fall, 1983.
May, 1983.
- TR-18 Stephen R. Barley. "Semiotics and the Study of Occupational and Organizational Cultures." Forthcoming in Administrative Science Quarterly, September, 1983.
May, 1983.



Distribution/ Availability Codes Submit and/or Special	
A	

Semiotics and the Study of Occupational and Organizational Cultures

Stephen R. Barley

Sloan School of Management
Massachusetts Institute of Technology

TR ONR 18
June, 1983

MIT WP 0116/09H

Forthcoming in Administrative Science Quarterly, September, 1983.

Prepared with the support of: Chief of Naval Research, Psychological Sciences Division (Code 452), Organizational Effectiveness Research, Office of Naval Research, Arlington, VA 22217, under Contract #N0014-80-C-0905: NR 170-911.

ABSTRACT

Semiotics offers an approach for researching and analyzing systems of meaning that undergird occupational and organizational cultures. Following a synopsis of semiotic theory, this paper presents data from an ethnosemantic study of a funeral home and demonstrates that semiotically identical codes structure a funeral director's understanding of his various tasks. The analysis not only suggests that semiotic research captures the redundant themes which characterize insiders' interpretations of this work world, but that it is also sensitive to the mundane, but critical, aspects of a culture. Finally, the study shows how semiotic research can elucidate rules by which members of a work culture consistently and coherently generate meaning.

Despite discrepant pragmatic aims, and regardless of nuances in definition, organizational theorists who write about organizational cultures repeatedly employ key terms that bear a family resemblance. Martin (1982), Siehl and Martin (1981), Wilkins (1980), Pettigrew (1979), and Dandridge, Mitroff, and Joyce (1980), all suggest that culture is embodied in and transmitted by "stories," "myths," and "symbols" and urge researchers to scrutinize such vehicles more closely. Schein (1981, 1983) and Dyer (1982) look for culture in patterns of "assumptions" which they hold to underlie symbolic vehicles, while Schwartz and Davis (1981) prefer the term "expectations." Van Maanen (1976, 1977, forthcoming) and Louis (1983) frequently write of culture as a set of shared "understandings," "interpretations," or "perspectives" by which members of a group are able to articulate contextually appropriate accounts. From the observation that this family of terms is repeatedly associated with the notion of culture, one may infer that in organization studies "culture" is somehow implicitly tied to notions of social cognition and contextual sense making. Whatever else it may be said to be, culture appears to have something to do with the way members of a collective organize their experience.

The growing interest in organizational cultures should not be seen as an isolated development representative of a small movement in organizational studies. Rather, from a thematic point of view, the topic is intellectually akin to a simultaneously growing literature that does not speak of "culture" per se, but that nevertheless ponders how members of organizations symbolically create an ordered world (e.g., Meyer and Rowan, 1977; Pondy, 1978; Morgan, 1980; Mitroff and Mason, 1981; Pfeffer, 1981). As a collection of texts, both bodies of work, and even the rising popularity of the term

"culture" itself, seem to signify readiness on the part of scholars and the public alike to consider the proposition that organizations are speech communities sharing socially constructed systems of meaning that allow members to make sense of their immediate, and perhaps not so immediate, environment.

That so many organizational theorists suddenly have begun to bandy about what suspiciously appears to resemble an interest in contextually shared meaning should give one pause. While occupational sociologists in the tradition of the Chicago School have long been concerned with how members of occupations make sense of their work world (e.g., Becker, 1951; Hughes, 1958, 1971; Roy, 1961; Becker et al., 1968; Salaman, 1974; Van Maanen and Barley, 1984), with the exception of Weick (1979), Van Maanen (1978, 1982), and a few others (Strauss, et al., 1964; Silverman, 1971; Manning, 1977) organizational theorists have been conspicuously silent on the matter until quite recently. Where, then, does one turn if one seeks to build a theory of how groups of people construct systems of meaning? If culture is an interpretive framework, what course should we take in ascribing ontological status to culture? By what principles do systems of meaning operate? Should cultures be studied *sui generis*, as systems of meaning in and of themselves? Or, is it better to study culture as a set of discrete symbolic entities that can be used as variables to explain other properties of organizations? Or, should we do both?

Perhaps because work on contextual patterns of meaning in organizations is so sparse, because the study of symbolics still clamors for legitimacy in the field, and because organization studies is pragmatic at its core, the tendency has been to take the second course. Hence, we find discourses on the relevance of culture as a concept, research and theory on how symbolics are

transmitted, and talk of what symbolics portend for processes like conflict, control, and efficiency, but relatively few investigations that portray a culture as a system of contextually generated meaning whose nature is, in and of itself, worthy of investigation.¹ Should organization studies wish to grapple with the latter issue, it will need a theory and a set of methods for explicating the complexity of socially shared, interpretive structures. Otherwise, the social construction of meaning may be relegated to a firmly entrenched background assumption closed to explicit empirical investigation, and culture may become simply one more box in a plethora of systems diagrams. As Allaire and Firsirotu (1981) astutely observed, the fashion has been, with few exceptions, to treat organizational culture as a cover term, an elision for a grab bag of norms, beliefs, values, and customs. As a concept, culture's day in organizational studies awaits a theory and method for displaying the complexity of an interpretive system.

Over the course of this essay my intent is to show how semiotics provides one avenue for conceptualizing and analyzing occupational and organizational cultures. At issue is the explication of a culture by techniques that treat interpretive structures as distinct phenomena subject to their own principles of operation. Broadly put, the questions to which semiotics provides a possible answer are not what does a culture do, how did it come to be, or who shares it, but rather of what is it composed, how are its parts structured, and how does it work?

THE STUDY OF SIGNS, CODES, AND CULTURE

Semiotics is an eclectic and amorphous field that traces its roots to the teachings of Ferdinand de Saussure (1966), the father of modern structural

linguistics, and to the pragmatic philosophy of Charles Pierce (1958).² Defined as the study of signs or systems of signs, semiotics concerns the principles by which signification occurs. Signification refers both to the processes by which events, words, behaviors, and objects carry meaning for the members of a given community, and to the content they convey. Therefore, semiotics is ultimately the study of how communication is possible since all communication presumes shared codes. The essence of semiotics is the isolation of systems of signification and the rules that govern their use.

Over the past 30 years the semiotic perspective in anthropology has become an important, if controversial, approach to the study of culture. In addition to the camp of "thick description" championed by Geertz (1973), and the linguistically oriented ethnosemanticists (see Tyler, 1969; Spradley, 1972; Goodenough, 1981) whose squabbles have been cogently documented by Sanday (1979), one should also consider the structural anthropologists to be semioticians. In fact, Levi-Strauss repeatedly claimed his intellectual debt to Saussure's work (Levi-Strauss, 1963: 87,90,204-205) and lamented the fact that anthropologists have paid too little attention to Saussure's writings. The debate between the three semiotic anthropologies, a subject worthy of a book, is fought over method, the ontological status of meaning systems, and the appropriate balance between emic and etic descriptions.³ One should not, however, allow the debate to obscure the crucial commonality that unites the three approaches: each maintains that the key to understanding a culture lies in a portrayal and analysis of how the members of the culture structure the meaning of their world and each employs concepts defined by theoretical semioticians.

Since semiotics has only recently begun to attain currency in sociology (Lemert, 1979; Schwartz, 1981), there are only a handful of empirical studies

that attempt to analyze "modern" social organizations in semiotic terms. Bouissac's (1976) study of circuses, Tway's (1976a, 1976b) work on factories, and Manning's (1979a, 1979b) thoughtful studies of police departments are explicitly semiotic, while the later writings of Erving Goffman (1974, 1981) can be viewed as semiotic in their concern for codes. To the extent that semiotics examines how meaning is constructed, its aim resembles the aims of both symbolic interactionism and ethnomethodology. Like the symbolic interactionists, semioticians assume that our relationship with the physical and social world is mediated by symbolic processes. Like ethnomethodology, semiotics concerns pragmatics, the investigation of rules of use by which communications are produced and interpreted. Recently, a number of writers have attempted to distill a general theory of semiotics broad enough to encompass any socially constructed system of meaning, and inclusive of principles that undergird the work of structural linguistics, structural anthropology, and structural literary criticism (see Morris, 1964; Barthes, 1967; Eco, 1976; Leach, 1976; Sebeok, 1976; Hawkes, 1977). It is upon this work, and the work of semiotically oriented anthropology that I have drawn liberally in framing this essay and the research it reports.

At the core of semiotics is the notion of the sign. A sign is understood to be the relationship between or the union of a sign-vehicle (an expression or form such as a word, sound, or colored light) and the signified, the notion or content conveyed by the sign vehicle (Barthes, 1967). The link between expression and content is arbitrary in the sense that it is a convention of the group to which the sign's users belong. Arbitrary coupling implies that the same expression can signify alternative contents and that similar contents can be conveyed by different expressions, depending on the conventions one

holds. As you drive towards me in your speeding car, I hold up my hand, palm out, intending an expression signifying the content, "Stop while I cross the street." From your vantage point behind the wheel, you wonder why I am so brash as to say hello from the middle of the crosswalk and you step on the gas. Obviously, our conventions differ. Both Geertz and the cognitive anthropologists argue that, in studying culture, a researcher's task is to discover the relevant expressions, contents, and rules that bind the two, so as to be able to portray the signs by which members of a culture make sense of their world.

In addition to identifying signs, a semiotic analysis of an interpretive system also considers the processes by which expressions are linked to their contents. Since semioticians are concerned primarily with elucidating operative principles at a level of abstraction congruent with meaning itself, they have preferred to traffic in processes that are specifically interpretive and have, therefore, eschewed historical or functional explanations for how signs signify. Instead, tropes or rhetorical forms are understood to be the processes that generate meaning. In a seminal work, Jakobson and Halle (1956) distinguished metonymy and metaphor as two processes by which signs signify, and upon which coding conventions are built.⁴ In anthropology, Leach (1976) has shown how both devices enable members of a culture to construct, maintain, and communicate realities. Known for their bare-bones analyses, the ethnosemanticists largely ignore metaphor and metonymy, but emphasize a third semiotic process, opposition, for explicating how semantic systems are structured (see Conklin, 1955; Goodenough, 1956; Lounsbury, 1956; 1969; Frake, 1961). Geertz, on the other hand, claimed that all rhetorical forms are useful for understanding how meaning is spun within a culture:

"Metaphor is, of course, not the only stylistic resource upon which ideology draws. Metonymy ('All I have to offer is blood, sweat, and tears'), hyperbole ('The thousand year Reich'), meiosis ('I shall return'), synecdoche ('Wall Street'), oxymoron ('Iron Curtain'), personification ('The hand that held the dagger has plunged it into the back of its neighbor'), and all the other figures the classical rhetoricians so painstakingly collected and so carefully classified are utilized over and over again, as are such syntactical devices as antithesis, inversion, and repetition; such prosodic ones as rhyme, rhythm, and alliteration; such literary ones as irony, eulogy and sarcasm.... as a cultural system, an ideology that has developed beyond the stage of mere sloganeering consists of an intricate structure of interrelated meanings — interrelated in terms of the semantic mechanisms that formulate them — of which the two level organization of an isolated metaphor is but a feeble representation." (Geertz, 1973: 213)

While Geertz's formulation, if assiduously worked out, would provide a most comprehensive set of semiotic processes for arming culture researchers, for the purposes of this article and the codes it discusses an understanding of the processes of metonymy, metaphor, and opposition will be sufficient.

Signs signify by metonymy when expressions are related to contents by contiguity or juxtaposition. The classic definition of metonymy in rhetoric is: a quality or aspect standing for the entity of which it is an attribute. For example, we use "crown" to signify "king" because a crown is a marker associated with a king and his regalia. Another type of metonymy is found in music. The sense of a melody is pure metonymy, since melody arises from the juxtaposition of notes or chords. A single note or chord by itself carries

little meaning, but when a note becomes part of a progression of notes, a tune is produced. Hence, only by juxtaposition do notes and chords convey messages. Finally, indices, signs whose expressions are naturally associated with their contents (as smoke stands for fire), signify by metonymy.

Metaphor is signification by similarity or analogy. Similarity between two signs typically arises when both share one or more denotations or connotations. A linguistic metaphor such as "the ship plowed the sea" invites us to see similarities between plowshares and ships' bows since both have similar physical contours and both cut furrows into the surfaces over which they travel. The metaphor functions even though plows and ships are members of distinctly different technological and semantic domains: the first agricultural and the second nautical. The archetypal sign that functions by metaphor is the symbol. When a crown is used to signify a brand of margarine, it is used metaphorically to suggest that both objects share regal qualities.

The crucial difference between metonymy and metaphor as semiotic processes can be summarized by the following rule of thumb: metonymical signification occurs when expression and content are both part of the same domain or context, whereas metaphorical signification mixes domains or contexts. Note that the term "domain" can refer either to a semantic context, such as all nautical terms, or to a domain of physical objects and attributes (e.g., actual nautical events and objects). Since the distinction between metonymy and metaphor is central to the codes discussed below, let us consider the distinction in relation to the two uses of "crown" cited above. By metonymy, "crown" signifies "king" because both crown and king are part of the same domain: things regal. However, the use of crown to signify a margarine's

qualities is a metaphorical device since the symbol mixes semantic domains: things regal and things culinary. Hence, an icon (such as a sketch or photograph) is metaphorical because it represents, in a different context (marks on paper), a host of attributes of a content belonging to another context (the object of the sketch) (Eco, 1976: 191-217).

Signs may also signify by opposition. To interpret a red light as a signal to stop, one implicitly contrasts the red to both green and yellow lights, which carry different meanings in the code of traffic lights. Although ethnosemanticists have made much of the binary opposition as the basic principle by which codes are structured, a less restrictive approach would be to admit that contrasts are likely to involve multiple oppositions. The mechanism of opposition suggests that we know what something means, in part, by knowing what it does not mean. The word "up" has no meaning without the opposed concept of "down," but the notion of vertical movement is, itself, undefined except in relation to horizontal mobility.

Signs contribute to systems of signification or codes. A code analytically decomposes into four ingredients: (1) a set of expressions, (2) a set of contents, (3) rules for coupling expressions to contents, and (4) a set of alternative responses contingent on the combination (Eco, 1976: 36-47). The last element is crucial for the study of cultures, societal or organizational, since its inclusion transforms the definition of code from that of a set of signs into a general model for social action: behavior becomes a function of interpretations of a situation. From the semiotic perspective, the members of a social group will act similarly, to the degree that they share the same codes for imputing meaning to the world. While the interpretive claim is by

no means unique to semiotics, semiotics is unique insofar as it redirects the researcher's attention from the behavioral regularity toward the code. Thus, a semiotic approach to the study of culture elevates the presumption of a socially shared system of meaning from the status of a background assumption to the explicit focus of investigation, and implies that behavioral regularity is a necessary, but not sufficient, condition for the explication of a cultural understanding. Two organizations may both publish reports for their stockholders, but for very different reasons.

In addition to overt behaviors, emotions, and further interpretations may also be responses to signs. Once we admit that an interpretation can be a response to a sign, we can allow for complexly structured codes in which any given sign (an expression-content combination) becomes an expression for a second content; and that sign, in turn, becomes an expression for a third; and so on, indefinitely. Hence, any sign can trigger a denotation and a succession of connotations that, following Eco, can be diagrammed as a chain of signification (see Figure 1, below, for the form of such a diagram).⁵

Let me illustrate the process by an example drawn from a subcultural remnant of the 1960s: that of "Dead heads," aficionados of the San Francisco rock and roll band, The Grateful Dead. A Dead head, browsing in a candle store, spies on a shelf a candle molded to resemble a human skull, around whose head are draped red roses. Whereas another person might think, "that's odd" or "how disgusting," as a member of a particular subculture, the Dead head immediately recognizes "The skull and roses," the band's logo. After this comes the thought "a Dead head made this," upon whose heels may follow a sense of solidarity and belonging with someone never met. It is precisely such

chains of signification that people must learn in order to become thoroughly socialized members of any social group.

A chain of significations is composed of two major parts, the denotative code and the connotative code. The denotative code refers only to contents immediately associated with the sign-vehicles themselves ("The skull and roses") and arises from the semiotic processes of metonymy (roses in contiguous association with a skull), metaphor [life (roses) and death (skull) are somehow similar] and opposition (the rose is not a begonia). The connotative code represents meaning at a more inclusive, reflexive level. Similar connotative codes may generalize across quite different denotative codes (the morphemes, "Lately it occurs to me what a long, strange trip it's been" scrawled across a wall would have elicited the same chain of significations as the candle). A familiar example of how diverse denotative codes can be subsumed by the same connotative code is our sociological proclivity to interpret pins on soldier's lapels and the size and location of a manager's office as indications of a "status hierarchy."

The connotative code is particularly germane to semiotic analyses of cultures, for it is in the connotative code that the researcher finds those redundancies of interpretation that bind together the denotative codes undergirding diverse arenas of action and social life. It is on the basis of these redundancies that the researcher can begin to attribute the coherence necessary for claiming that members of a group under study share a perspective rather than simply a code. I shall term such redundancy at the connotative level a theme. Themes imply a "message" or interpretation that runs through numerous

activities and events and thus act as the cultural glue for attributing coherence and consistency to myriad separate actions, events, and objects.⁶

The preceding precis of the major concepts of semiotics hardly does justice to the complexity of the theory; however, my intent has been to provide a brief introduction to the key concepts on which a semiotic study of occupational and organizational cultures can be grounded. The application of concepts to the study of such a culture is probably better explained through the use of concrete examples, a task to be taken up shortly. Before presenting the data from my study of the semiotics of funeral work, let us first turn to the methods used.

AN APPROACH TO COLLECTING SEMIOTIC DATA

The study extended over a three-month period, during which I observed and conducted multiple interviews in a community-oriented funeral home in a metropolitan neighborhood of an eastern seaboard city. The funeral home was operated by two brothers who were both funeral directors and who inherited their business from their father, the home's founder. They employed two apprentices and approximately ten part-time pallbearers. The home drew most of its clientele from the surrounding community which was populated by individuals of Catholic faith and Irish, Italian, Polish, and Lithuanian descent. Consequently, the business was weighted toward traditional Catholic funerals and exemplified a form of organization that Pine (1975) called the "professional service model" of funeral directing, and that Habenstein (1962a) termed "the local funeral home." Since my purpose was to discover how a funeral director understands funeral work, I chose to limit my work to one

home and to make semantic codes rather than funeral work or funeral homes per se the focus of analysis.

The initial task was to uncover the basic units of semiotic analysis: signs that have relevance for funeral directors. However, since the theory presumes that anything can function as a sign, I faced the problem of discovering which signs are germane to the funeral director's understanding of his work.⁷

Moreover, since I sought signs with the ultimate objective of delineating the structure of codes, it was imperative to devise a research strategy to identify groups of signs that the informants considered relevant and related. The solution to this methodological problem was initially to employ a broad ethnographic approach that progressively came to pivot on the use of ethnosemantic techniques to create semantic taxonomies and trees.⁸ The data collection progressed through three analytically distinct, but realistically overlapping, phases.

During the earliest weeks of the research, I familiarized myself with the funeral home and funeral work by combining observation in the funeral home with interviews of the funeral directors. Since I was primarily concerned with the funeral director's interpretations of objects, events, and actions, I considered observation to be subservient to the interviews and, therefore, drew on observation primarily to generate topics for discussion. All interviews were taped and transcribed within 36 hours of the interview, to ensure that elicited interpretations were preserved accurately and that they were available for planning subsequent interviews. As the body of interview data accumulated, lengthy interviews became the central tactic of data collection, and observation became less and less important.

The first interviews were broad-ranging, loosely structured discussions that covered such general topics as the director's career, the history of the family's business, the nature of the home's clientele, the layout and decor of the home, and overviews of various funeral tasks such as preparing a body or making a removal. The interview strategy was to introduce a topic and then to encourage the director to speak for as long as possible by requesting elaboration of points the informant might make in the course of the interview. To move the informants toward monologues about their work, I assumed a nondirective style of interrogation and employed techniques of client-centered therapy: paraphrase, reflection, summary, and minimal encouragements to speak. By allowing the flow of the early interviews to be directed by the informant, I strove to minimize the effect of my own conceptions on the structuring of the talk in order to capture the funeral director's own interpretations as they organized his accounts of funeral work.

After the first several weeks of interviews, the transcripts were analyzed to discover domains of objects, events, and action into which the funeral directors seemed to segment the flow of their work. Spradley (1979a: 100) offered the following definition of a domain: "Any symbolic category which includes other categories . . . all members of which will share at least one feature of meaning." The "one feature of meaning" is generally guaranteed by the cover term that labels the domain. Among the 56 domains identified for further investigation were the following: "types of funeral home furnishings," "phases of a funeral," "types of removals," "stages of restoration," and "kinds of clients." At that point in time, most of the domains were only partially elaborated. For example, I knew that funeral directors spoke of "hospital removals" but I did not know that "home removals" and "nursing home

removals" existed and that these contrast with hospital removals within the domain, "types of removals." Consequently, during the second phase of the research, I used the analysis of previous transcripts to formulate interview schedules to elicit the categories and subcategories that composed each domain. Thus, interviews became more structured and, as the domains were elaborated, my interview strategy began to include ethnosemantic questioning techniques formally known as "question frames" (e.g., "What kinds of W's are there?" "Is X a type of equipment essential for a wake?" "Is X a phase of the funeral?" "Is Z part of restoration?") Question frames elicit data from which can be constructed semantic trees or taxonomies for each of the domains (see Kay, 1969, for a brief, but superb, discussion of semantic trees and taxonomies).

Using Glaser and Strauss' (1967) notion of saturation, I considered a domain to be elaborated when, after several interviews, I could no longer elicit any new elements that a funeral director would include in that domain. The items composing a domain were then written on 3x5 cards to form Q-sort decks. The Q-sorts were used for two purposes. By giving an informant the cards for a specific semantic domain along with instructions to sort the cards into "piles that make sense," the structure of the taxonomy or tree was verified or, if necessary, modified. Secondly, by asking the informant to explain his rationale for the groups so formed, dimensions were elicited along which the informant compared and contrasted items in the domain, thereby yielding what ethnosemanticists term an attribute analysis. Once a domain is mapped in terms of a structural and attribute analysis, the researcher not only possesses a phenomenologically related collection of signs (e.g., items in the domain), but also the informant's interpretations of the items which become

the data base for analyzing the semiotic processes that structure the items into a system of signs or a denotative code.

As the domains multiply and become saturated, commonalities among particular domains emerge. In my experience, the commonalities first appeared as stock interpretations that informants used to justify, subsume, and order the activities, objects, and events that compose diverse domains. For example, typical interpretations that the funeral directors used to justify their activities included the following: "convenience versus inconvenience," "putting people at ease," and the "naturalness or unnaturalness" of certain presentational ploys. These reflexive, subsuming, and recurring interpretations are the basic data from which connotative codes were mapped during the third and final phase of the research. These interpretations resemble themes that suggest that widely divergent domains are somehow quite similar in the funeral director's view of his world.

When mapping the structure of a connotative code, the researcher must ascertain whether a common pattern of signification leads the informant to interpret each item in a particular domain similarly. One technique for such a mapping is to create new questioning frames that use the themes as invariants (e.g., "Is X a way to put people at ease?") and other frames that treat the themes as variables ("What are all the ways you try to X?") A second technique to verify the overarching interpretations given to a domain involves focusing on each individual object, act, or event that composes each domain. Based on an understanding of the attributes of each item, I proposed to the informant another item or behavior that appeared to possess attributes opposite to the item of concern and then noted how this changed the

informant's interpretations. Since each item was tested to ensure that it elicited the same thematic interpretation, discussions of the signs composing a given domain were staggered across time to monitor the consistency of the accounts collected.

When two or more separate domains evoke the same connotations, the researcher has evidence to justify the hypothesis that the domains represent diverse denotative codes that are created by similar signifying processes. The remainder of this essay will elaborate how such structural similarity gives rise to parallelisms of meaning across quite diverse arenas of action and thereby produces the consistency necessary for attributing an occupational or organizational perspective.

THE SEMIOTICS OF FUNERAL WORK

For the funeral director, the typical case consists of a series of events: taking the call, removing the body, making arrangements with the family, embalming and the preparation of the body, holding a wake, holding a funeral and, finally, interment. There are a number of analytically distinct types of complications that can disrupt the smooth flow of such events (Barley, 1980). For the purpose of this discussion, however, we need only consider those complications that are understood to arise out of mourners' expressive behaviors, and that are deemed "uncontrollable" in that they are not open to the funeral director's direct intervention. From the funeral director's point of view, acutely expressive behavior can interrupt the pacing of funeral events, upset the "dignity" of the scene, and thereby hamper his work. Expressive behaviors are unresponsive to planning, scripting, or routinization, and their probability cannot be predicted with accuracy.

Nevertheless, funeral directors do attempt to divert such disruptions by influencing funeral participants' perceptions in ways that they think might render the emotional tone of the funeral scenes more manageable. Since his role is not the role of priest or counselor, the funeral director seeks to moderate stress by making funeral scenes appear more "natural" or "normal."

When funeral directors speak of "naturalness" as a quality to be attained in a particular funeral scene, they refer to the desirability of arranging cues or creating a set of signs to mitigate those perceptions of death they believe might disturb participants. Falling death rates, the shift toward holding wakes in funeral parlors rather than in private homes, and hospitalization of the terminally ill have distanced Americans from death during the twentieth century. Moreover, we rarely have occasion to attend a funeral until later in life. Consequently, funeral scenes are unfamiliar, and the sight of the deceased's body can trigger unpredictable behavior. The funeral director seeks to create the appearance of normality or naturalness whenever the living are in the presence of the dead. This intention underlies strategies that organize the execution of many different activities; for example, preparation of the body, removal of the deceased from a home, and choice of the funeral home's decor.

Code of Posed Features

Perhaps the most significant occasion when the body is present in the midst of the living occurs when the corpse is "laid out" for a wake. To make the "viewing" more palatable, the funeral director or an apprentice "prepares the remains." Preparation refers to two broad categories of procedures designed to simulate a lifelike appearance: (1) embalming, replacing the corpse's

blood with a preservative fluid, and (2) restoration, which includes posing the corpse's features, applying cosmetics, clothing the corpse, and positioning it in the casket. These latter activities involve creating a set of signs to communicate to funeral participants the image of a restfully sleeping person. Hence, we may speak of a code of posed features, a cosmetic code, a clothing code, and a code of positions. However, this article shall consider only the first of the codes since my intent is to illustrate the similarity of codes across, rather than within, domains of action.

After cleansing the body, the funeral director "poses" the deceased's features by closing the eyes and mouth. Since the corpse's face will be viewed most closely at the wake, posing should do more than simply hide a death stare or counteract rigor mortis' opening of the mouth; it should also simulate the visage of a sleeping person. Consequently, funeral directors distinguish among methods for posing the corpse's features on the basis of the quality of the signs they produce. For example, there are two ways to close a corpse's eyes: the "abutting" and the "overlap" methods. When using the overlap method, the funeral director lays the upper eyelid over the lower eyelid, whereas with the abutting method he joins the eyelids at their edges. Although the overlap method requires less time and skill, funeral directors prefer the abutting method for open viewings since it more closely approximates the visual configuration achieved when living persons close their eyes.

In everyday life we have all had occasion to wonder if someone is asleep. To make such a judgement, we look for indices that we take as signs of sleep: Are the person's eyes closed? Is breathing occurring? Is the person

reclining? Are there other contextual cues, such as a pillow, that suggest intent to sleep? Moreover, we might distinguish between light, peaceful sleep and heavy, fitful sleep by noticing how heavily the person is breathing and whether the person's mouth is open or closed. If the person is reclining and breathing lightly with mouth and eyes shut, then we will probably infer that the individual is sleeping peacefully. Notice, however, that any one of these indices is insufficient to justify the inference. There are numerous instances when individuals recline, breathe lightly, close their mouths, or shut their eyes without sleeping. Rather, it is the juxtaposition (metonymy) of all these signs under the proposition of a sleeping person that allows any one of them to carry the meaning of peaceful sleep.

In posing a corpse's features the funeral director seeks to recreate metaphorically the system of metonymical signs that we take as indices of peaceful sleep. The code is metaphorical because the signs are created on the face of a corpse which, in its unposed state, might be signified by a stare, an open mouth, and the absence of breathing. The code of posed features is diagrammed as a structural schematic in Figure 1. As the diagram suggests,

(Insert Figure 1 about here)

the code of posed features is built on a basic opposition between two semantic domains: living, sleeping persons and dead persons (represented by the two major blocks of the diagram). Hence, in the everyday world (as in Figure 1), an unposed corpse and a sleeping person are marked by antithetical attributes (open vs. closed mouth, light breathing vs. no breathing, etc.). Yet the purpose of posing is to suggest that corpses and sleeping people have attributes in common. Thus posing creates a metaphor by arranging for the corpse to be associated with cues (expressions) normally associated with

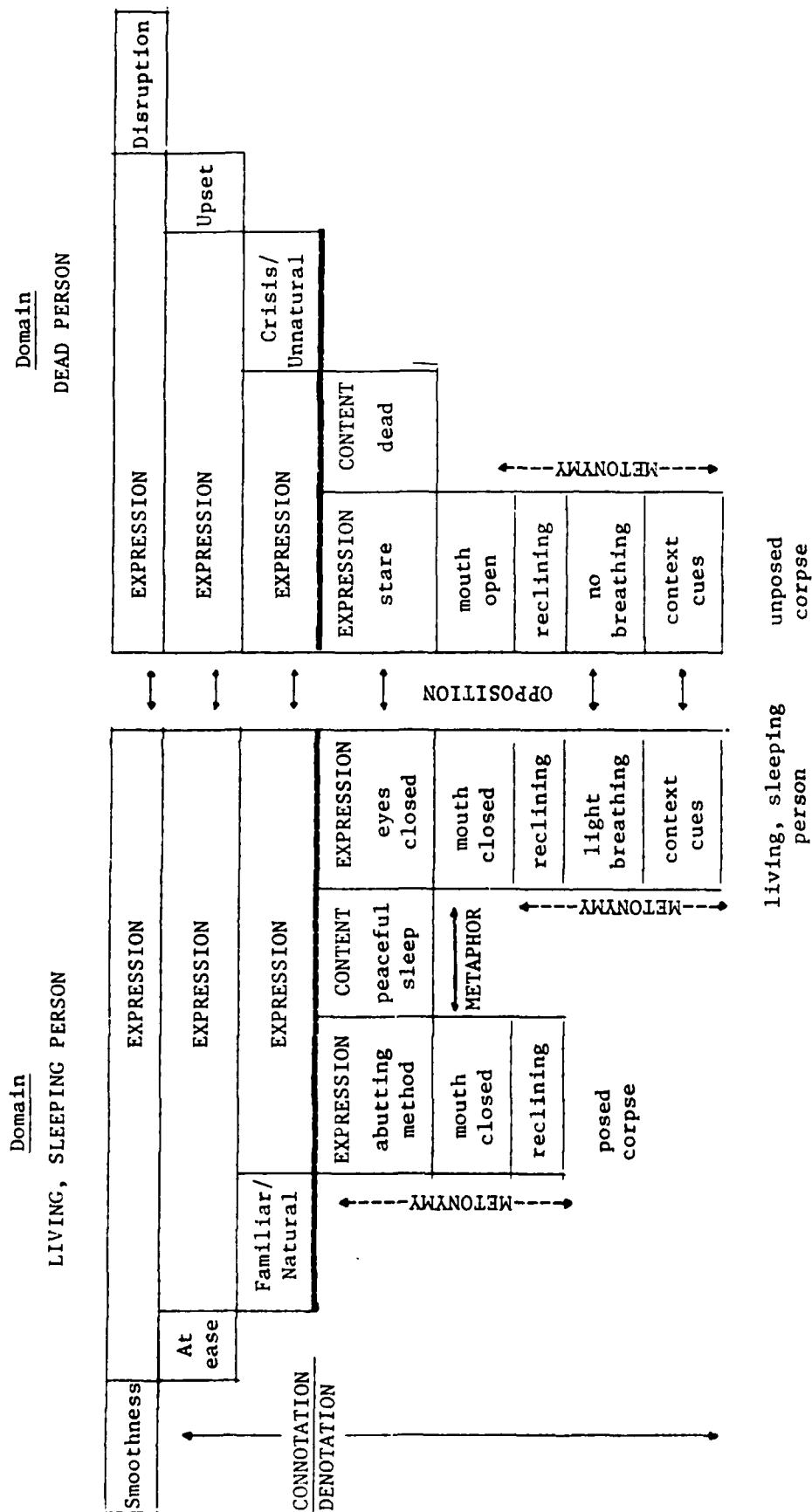


Figure 1: Diagram of Code of Posed Features

peaceful sleep (content). Therefore, in terms of the diagram, the corpse in its posed state presumably shifts semantic domains to become aligned with its opposite.

The code also functions by metonymy. Not only are the posed features juxtaposed to one another so that each reinforces the other's message, but they are also intended to override those attributes of sleeping persons that the funeral director cannot simulate (e.g., breathing, rapid eye movement). The first metonymical structure is similar to melodic contiguity and is schematically portrayed in Figure 1 as a vertical stack of expressions (abutting method, mouth closed, reclining), each of which is presumably linked to the content "peaceful sleep." The second metonymical structure, a quality for quantity metaphor similar to using "crown" to signify "king," appears in the diagram in that the metonymical stack of expressions associated with the "posed corpse" is "shorter" than the stack associated with the "living, sleeping person."

Thus at the first level of signification (the denotative level or the lower portion of the diagram), the code of posed features is a metonymical array of metaphorical signs for another metonymical array of indices used in everyday life. The code shifts the corpse from one semantic domain to another and, therefore, suggests that opposites are similar. The code's rule might be stated as: Manipulate a corpse's facial features to metaphorically simulate the metonymical system of expressions used as typical indices of sleep.

The denotations are intended to produce a flawless funeral. The funeral director intends not only that funeral participants read the metonymical

metaphors as signifying peaceful sleep, but also that these signs will suggest, in turn, a "familiarity" or "naturalness" that will put the participants "at ease." From the funeral director's point of view, participants who are "at ease" are less likely to disrupt a smoothly flowing funeral. This series of interpretations that the funeral director associates with the posing of features is diagrammed as the connotative code in Figure 1. Note that at each successive level the connotations are directly antithetical to interpretations the funeral director presumes would be elicited by a corpse where features had not been posed (the connotative code of each semantic domain is opposed). Only by such an oppositional structure does the code of posed features make sense. Signs have no meaning unless they are contrasted with other signs in a system.

Codes of Furnishings

Given that the espoused goal of restoration is to present a viewable corpse, one might expect that the posing and positioning of the corpse, the use of cosmetics and the choice of clothing would build toward a common end. Therefore, the underlying codes might be expected to signify similarly. However, the funeral director's desire to build impressions of familiarity and naturalness extend beyond the domain of preparations. Recognizing that the funeral home is an alien setting for the average individual, the funeral director chooses a decor and plans the architecture of the home to play down perceptions of the unfamiliar and to dissociate the home from a church environment. In fact, the funeral home is said to be an "extension of the person's home" and the strategy of design is explained as follows:

"Your basic idea is to give them some place comfortable and pleasing to the eye to come to....(you hope that they can enjoy being here for a period of

time because of the decor, forgetting about what they're here for. At least it gives them something to look at."

Each chapel in the home is furnished with comfortable stuffed chairs and couches similar to those found in the living rooms of private homes. Although the design of the furniture is not ultra-modern, neither are the pieces Victorian. The furniture is upholstered in light colors and the carpets of the rooms match the upholstery. Positioned among the chairs and couches are end tables, with table lamps, and coffee tables. The furniture is grouped in small clusters that create conversational niches. The paintings on the walls of the chapels depict spring and summer landscapes. In fact, the only overtly religious symbols are the crucifix that hangs above the casket and the spiritual stand, both of which are used in Catholic funerals. Each chapel opens into a larger, similarly furnished smoking room where smokers can congregate. The smoking room provides ample space for participants to gather out of sight of the corpse.

Figure 2 maps the code of furnishings. The structural analogies

(Insert Figure 2 about here)

between the furnishing code and the code of posed features are readily apparent from the diagram. The code builds on a presumed familiarity with the appearance of typical living rooms and churches. Obviously, the funeral director's conception of what his clients take to be the typical furnishings of a church and a living room are bound by tacit assumptions about the religion and social class of his clientele. As before, the code has both metaphoric and metonymical properties. The metaphor implies that a funeral parlor has more in common with a typical home than it does with a church, even

Domain

CHURCH

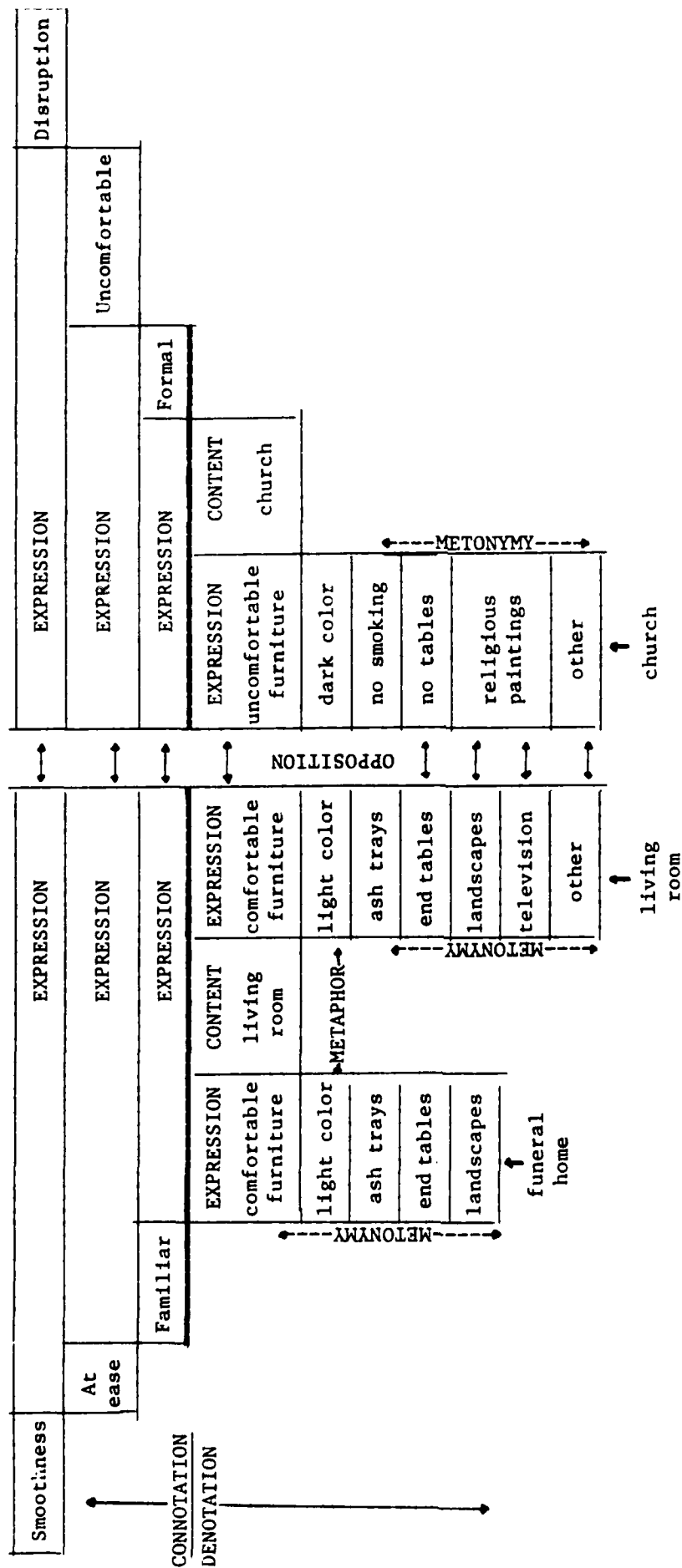


Figure 2: Diagram of Furnishing Code

though, like the latter, it is a setting for the rituals of death. Like a living room, and unlike a church, a funeral parlor offers the opportunity to sit comfortably and converse with other participants, as well as the option of avoiding religious reminders. Moreover, the individual signs reinforce each other, as well as the metaphor, by their juxtaposition in space. The spatial configuration of the furnishings is intended to obfuscate the necessary trappings of a funeral home that the funeral director cannot eliminate. When sitting in carefully arranged clusters of chairs or when frequenting the smoking room, one can avoid confronting the corpse.

The denotative code of furnishings is built on the following rule: choose a decor to devise an array of indices commonly associated with living rooms and combine this metonymical array with an appropriate color scheme to metaphorically imply that funeral chapels and living rooms have something in common. The first level of signification is intended to connote a sense of familiarity that is opposed to the ritualistic formality of a churchlike setting. The funeral director presumes that participants are, therefore, led by the decor to feel more relaxed and, hence, are less likely to behave in ways that might disrupt the smooth flow of the funeral.

The connotative significations of the furnishing code are identical to those that the funeral director attributes to the code of posed features. Apparently the two denotative codes evidence the same connotative system since the expressions and contents of the signs are coupled by similar conventions. Just as two words can be denotative synonyms, so two codes can be connotatively synonymous.

Codes of Removals

The code of posed features and the code of furnishings are both systems of signs intended to influence the perceptions and behavior of bereaved persons actually visiting the funeral home. The funeral home is not the only setting, however, where funeral participants or outsiders can come into contact with the corpse or observe the funeral director and his staff performing the more unpleasant aspects of funeral work. Such a situation may occur when removing the body from the place of death.

On the basis of the context of the death, the funeral director distinguishes between three major types of removals: hospital removals, nursing home removals, and home removals.⁹ Hospital removals present little difficulty for a funeral home's staff since hospitals are prepared to handle deaths expediently and since most maintain morgue facilities that enable the funeral director or his staff to remove the body at their own discretion and under circumstances in which their activity is unlikely to be observed by people unaccustomed to death. Nursing home and private home removals are more difficult, however, not only because they require immediate attention or because their architecture and lack of refrigeration facilities are likely to complicate the funeral staff's activities, but because there is a good chance that uninitiated onlookers will be on the scene. These complications are most likely in the case of a home removal.

Individuals who die at home by way of a sudden heart attack or accident usually are first attended by an ambulance squad who typically transport the body to a hospital for an autopsy, after which the funeral director makes the removal from the hospital. Hence, most home removals occur when an individual

dies in bed during sleep or after being confined to bed by an illness. Upon discovering the body, the family typically notifies relatives and friends so that by the time the funeral staff arrives on the scene a number of people may have gathered. In making a home removal, the funeral director's primary objective is to get the body from the house as quickly as possible without attracting undue attention to the work, and to limit the survivor's awareness of what has happened.

Upon arriving at the scene, the funeral director finds out where the body is located and then persuades one member of the family or a friend to gather the rest of the onlookers in a room away from the scene of death. Typically, the funeral director suggests they adjourn to the kitchen for a cup of coffee. Having positioned the onlookers away from the scene, the funeral staff moves whatever furniture is necessary to provide open access for the litter, but the path is also cleared to assure that no unwanted noise might be caused by bumping the stretcher into pieces of furniture. Noises are avoided in order to guard against, among other things, the perception that the staff has dropped the body.

In addition to removing the body, the staff makes adjustments to the room. Closed shades or curtains are opened to allow sunlight into the room, and windows are opened during the removal to allow fresh air to remove any odors. The bedding is stripped from the bed and folded — except when the corpse has stained the sheets, in which case the funeral staff removes them along with the body. Sometimes the bed is actually remade without the sheets and the room is tidied.

The strategic rearrangement of the room is based on a code that is intended to reconstruct what the room may have looked like before it became a death room and to suggest that a removal did not occur. The code presumes that clean, unoccupied bedrooms are characterized by a metonymical array of signs: open shades, fresh air, order, made beds, and sunlight. On the other hand, sick rooms are known by an array of opposite attributes (see Figure 3).

Insert Figure 3 about here

By reconstructing this system of metonymical signs, the funeral staff attempts to create an icon, a metaphor, that compares the death room to a clean, unoccupied room. At least for the funeral director, rooms of the latter type are understood to be more normal than death rooms. Hence, the removal code operates by the very same mechanisms as do those codes the funeral director employs in the funeral home. Thus the structure of the code as it is schematically portrayed in Figure 3 is identical to the structure of the two codes discussed earlier. The fewer the reminders of death and the removal, the more smoothly the removal may proceed.

CONCLUSION AND IMPLICATIONS

The codes of posed features, furnishings, and removals do not exhaust the symbolic means by which a funeral director attempts to create and communicate the perception of "naturalness," in order to insure a "smoothly" flowing funeral (see Barley, 1983). Nor do these themes, portrayed by the connotative portions of the codes, capture the fullness of a funeral director's understanding of his work. Among others, the themes of "convenience" and "business" are equally important in the organization I studied, and like "smoothness," both are glosses for complex codes that generate aspects of the funeral directors' interpretations of their occupational world. However, the

Domain

UNOCCUPIED ROOM

Domain

SICK OR DEATH ROOM

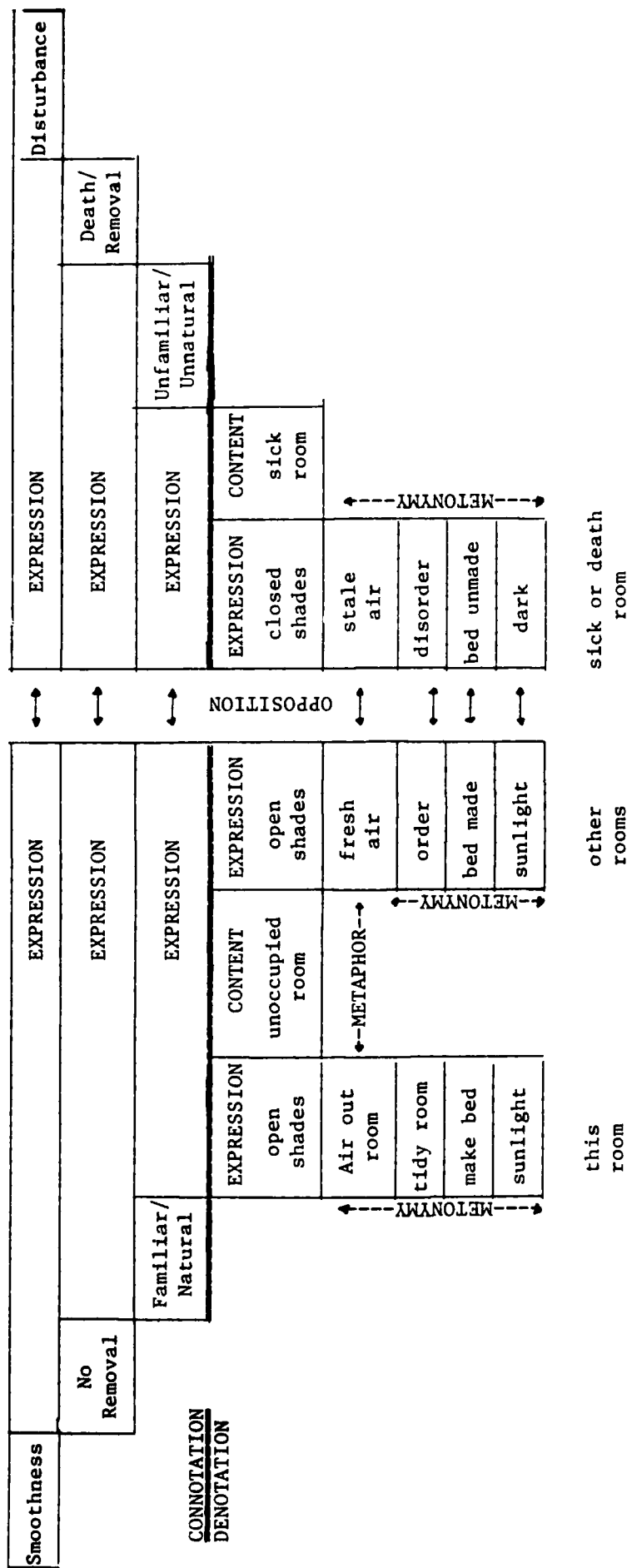


Figure 3 Diagram of Removal Code

codes do suggest that within the culture of this funeral home, employees need to be conscious of and manage the emotional tension generated by death. In order to work in the home, among other things, one would have to come to interpret events, objects, tasks, and even one's own behavior in terms of their impact on funeral participants. In particular, an apprentice must learn to structure carefully the funeral environment so as to achieve a balance between cues of life and death. The balance is sought by learning to see the world from the point of view of particular types of codes: codes that create subtle illusions of everyday life by carefully constituting metonymical arrays of metaphorical signs whose meanings are opposed to typical cues of death and strangeness. As part of a learned culture of the funeral home, the codes presumably guide the apprentice funeral director as he goes about the normal duties of his work world, engaging in such occupationally mundane activities as choosing a chair for a chapel, ordering cosmetics, and managing to remove a body uneventfully from someone's home.

While the codes discussed in this article do not portray the whole culture of funeral directing, they succinctly capture a major aspect of it and provide examples of how one might use semiotics to study and map the systems of meaning employed by members of a specific occupational or organizational setting. The semiotic perspective brings into relief several conclusions about the study of occupational and organizational cultures in general.

One sometimes senses that organizational theorists lay too heavy an emphasis on overtly symbolic phenomena as indicators of cultural processes. Clearly, logos, stories, colorful terms, and arcane rituals are symbolic in nature, and it is reasonable to identify and study them. From the semiotic perspective,

however, terms, tales, and totems are but lit candles hovering above both the icing and cake of culture. A semiotics of culture urges the realization that anything can be an expressive sign capable of signification. Once we recognize the pervasiveness of signification, we are no longer constrained to look for cultural phenomena in the overtly symbolic and can focus on how members of an organization or occupation interpret a wide range of phenomena including chairs, air, and sunlight -- entities so mundane as to appear irrelevant to the well-intentioned but culturally ignorant researcher.

The injunction to search for semiotic pebbles among the symbolic gems of an organization or occupation is important for two reasons. First, if the members of an organization we study happen to share no good stories and no neat terms, possessing a semiotic perspective will shield us from concluding that the unfortunate organization is bereft of a culture. Second, since semiotics accepts the inevitable interpretation of everything, we are less likely to miss the crucial variance in setting-specific understandings. For example, the expressions "marketing" and "research" may signify different contents in different organizations. But, more importantly, even within the same organization the terms may be functional homonyms -- words that sound the same but mean different things to different people. Consequently, when delving into the codes in which a word like "research" is a sign-vehicle, one may discover that the sales and research and development departments are operating with different codes, even though it sounds as if everyone is using the same expressions. Hence semiotics would provide an approach for integrating the study of organizational conflict and organizational culture.

To claim that members of a group share a perspective is to assert that they are capable of manufacturing and promulgating coherent and consistent accounts. An indication of interpretive consistency is redundancy of accounts across diverse activities, events, and objects so that accounts take on a thematic quality. An interpretation or understanding may be widely espoused but fail to provide the integration necessary for imputing a distinctive occupational or organizational culture. All the members of an organization may know that the founder wears blue suede shoes and interpret the idiosyncrasy as a symbolic reminder that independent thinking is valued in the organization. But what if no other aspects of the organization's milieu are understood similarly? Should we assume that the organization's membership values independent thought, or that they merely know the nature of blue suede shoes?

At first glance, preparing a body, choosing a decor for a funeral home, and removing deceased persons from their homes appear to have little in common besides being routine activities of funeral work. Yet, a semiotic analysis suggests that, in at least one funeral home, these three activities are inextricably linked to a common interpretive scheme. Each of the activities is based on a denotative code whose structure is identical. The codes of posed features, furnishings, and removals all create a metonymical array of metaphorical signs that intimate that perceived opposites are similar. The redundancy of structure in the coding rules at the denotative level is reinforced by synonymous, and hence redundant, connotative codes. Taken together, the three codes converge to form an interrelated semiotic system.

It is the semiotic parallels captured succinctly in the identical schematic of each of the codes that lends this analysis force and that justifies the claim of having found a theme integral to the culture of the funeral home. The structural redundancy of the denotative codes and the consistent emergence of "naturalness" and "smoothness" as interpretations marking the funeral directors' accounts of apparently diverse activities suggests that the themes provide a perspective central to the way the funeral home operates.¹⁰

Hence, a semiotic analysis pushes the researcher toward a more complex understanding of the ways in that interpretations spread over the surface of activities as a ripple over a pool of water. If the codes underlying the meaning of several domains of action and communication are consistently structured, then we have a rationale for attributing coherence of perspective. Whether or not codes are related is an empirical question, but to study individual codes (or, worse, individual signs) in isolation from other codes insures a pale view of an occupational or organizational world.

Other research strategies may achieve similar assessments of what the members of an occupation or organization do, and other analytic strategies may capture the essence of what members think they do, but the semiotic approach seems uniquely suited for explaining the codes that underlie a work culture. Such codes, schematicized in a structural analysis, represent tightly formulated rules for producing actions and interpretations deemed appropriate by members of the culture. Possessing such a set of interpretive rules should enable the cultural researcher to predict not only how members will interpret other aspects of their work world, but also how they will frame the mundane problems they encounter in their round of work. For example, the codes discussed in this article would lead us to predict the funeral director's approach to

clothing a corpse (Barley, 1983). Moreover, when faced with the need to replace a hearse, the codes succinctly explain why the funeral director in the home I studied would prefer a metallic grey hearse to a black one. The compelling logic of such a choice would be incomprehensible to someone ignorant of the codes portrayed in this essay.¹¹

Finally, some readers may submit that a semiotic analysis is appropriate for an occupation like funeral directing and an organization like a funeral home, but that semiotics may be less useful for studying the cultures of more mundane organizations and occupations. After all, funeral directors do orchestrate the ultimate right of passage and, therefore, one would expect funeral work to be overburdened with symbols and complex codes. Lest the reader be beguiled by the research setting, consider briefly the culture of a major American manufacturer of aircraft. The company takes great pride in its tradition of designing systems that always include a fail-safe mechanism -- a parallel system that will duplicate the function of the main system, should it fail. Consequently, engineers working for the company tend to approach the design task with the goal of producing what, ironically enough, they call "redundant" systems. These same engineers explain the logic of having project teams headed by both functional and project managers in terms of the benefit of "redundancy." An acute observer of the organization once noted that many of the company's engineers wore both belts and suspenders to hold up their pants. When the engineers were questioned about why they wore both, the reply was predictable: "redundancy." In this case, redundancy would seem to be an organizational theme much like "naturalness" is for the funeral home I studied. Moreover, redundancy seems to be a theme arising from signs generated by a code that operates on the syntactic principle of parallel

repetition. One can only surmise that the semiotics of socially shared codes are universal in organizations and are as vital in a company's boardroom as in its R&D lab. I submit that semiotic analysis is appropriate for understanding the cultures of a wide variety of organizations and occupations. For example, can one even contemplate a marketing department that does not explicitly traffic in systems of signs?

If organizational studies has turned to culture in an attempt to come to grips with the importance of socially constructed systems of meaning in organizations, one fears that researchers in the field may put the proverbial cart before the horse. One can hardly answer questions of generation, extension, and import without first having a firm understanding of what is being generated, extended, and assessed. Semiotics offers a set of concepts and methods for directly confronting the nature of culture as a system of meaning and encourages the creation of theory and analysis congruent with the nature of the beast itself. Linguistics has shown that it is possible and productive to study a semiotic system by developing concepts appropriate to the level of abstraction of the system. With a semiotic approach to culture, perhaps similar progress can be made in understanding the nature of socially constructed worlds within organizations, occupations, and beyond. By attending to signs and codes, the researcher takes meaning out of the closet and sets it center stage for all to see. The sight may be more than a little unnerving.

FOOTNOTES

- This paper originated in a lengthy essay on the semiotics of funeral work that detailed seven separate codes and addressed two distinct topics: semiotics' elaboration and extension of a symbolic interactionist approach to occupations in general and funeral directing in particular, as well as the more theoretical issue of semiotics' import for the study of occupational and organizational cultures. Simultaneous discussion of the two topics proved awkward within the constraints of a journal length article so the original essay was subsequently broken into two shorter manuscripts, dividing the codes in a manner appropriate for separate development of the two substantive interests. Readers interested in the relation of semiotics to symbolic interactionist research and the dramaturgy of funeral work are referred to Barley, "Codes of the Dead," Urban Life, Vol. 12, No. 1, (April, 1983), c 1983 Sage Publications, Inc., which concerns itself exclusively with one domain of funeral work: restoration. Portions of the present article and "Figure 1" are drawn from that work, and are represented here in order to build coherently the argument for the structural redundancy of codes across diverse domains of action.

In its present form, this essay grew out of a talk delivered as part of a symposium on "The Utility of Metaphor and Tangential Literatures in Organizational Theory at the Academy of Management Meeting in August, 1982. An earlier and less elaborate version of the talk was presented at the National IO-OB Doctoral Student Conference in College Park, Maryland, during April, 1982. I owe gratitude to a number of

colleagues and friends who have helped work out the ideas and expressions contained herein: John Van Maanen, Peter Manning, Lotte Bailyn, Ed Schein, Joanne Martin, Gareth Morgan, and Gideon Kunda. In part, this paper was supported by a grant (N00014-80-C-0905: NR 170-911) from the Office of Naval Research, Psychological Sciences Division, Organizational Effectiveness Research.

1. The few studies that do exist are based largely on solid ethnographic data. The seminal studies by Selznick (1949), Gouldner (1954), Dalton (1959), Pettigrew (1973), and Kanter (1977) come immediately to mind. The claim that members of organizations or functional groups within organizations share unique and divergent perspectives on their work and the organization's mission has a long and honorable history. In part, the call to study culture represents a reawakening of this insight, but it replaces the earlier focus on differentiation with one of integration.
2. As one anonymous reviewer of this manuscript incisively observed, there are crucial distinctions to be made between the Saussurian and Piercian approaches to semiotics. For example, Saussure conceived of the sign as composed of the two parts (the signifier and the signified), while Pierce advocated a tripartate concept of the sign (interpretant, representamen, and object). Given that the purpose of this article is to show how semiotics can be used to inform the study of organizational cultures, these and other differences are glossed over. My approach perhaps fosters the illusion that semiotics is a body of thought more unified than is indeed the case. For the

interested reader, the Saussurian perspective can be found not only in the posthumously published lectures of Saussure (1966) but also in the writings of Barthes (1967), Hawkes (1977), and Culler (1976). For the Piercian perspective, Morris (1938, 1964) as well as Pierce (1958) should be consulted. This article draws heavily from Eco's, A Theory of Semiotics (1976), a modern classic in the field.

3. To detail the debate here would take us far afield from the points at hand. However, a brief synopsis may be helpful. Geertz claims that a semiotic analysis should search for the repetitive, interpretive structures that infuse a culture's everyday life, but that one should display these interpretive regularities by remaining "close to the data." He takes the ethnosemanticists to task because they tend to focus exclusively on the semantic structures underlying a circumscribed set of linguistic taxonomies and because they claim culture is a psychological phenomenon which, in Goodenough's terms, "resides in the hearts and minds of men" (1981). For Geertz, cultural meanings are social, not individual. Geertz's complaint with the structuralists, and with Levi-Strauss in particular, is that the abstract representations drawn by structuralists leave one in doubt as to whether the structures represent the meaning meant by members of a culture (emic) or meanings invented by the anthropologist (etic). I have tried in my research to remain faithful to Geertz's larger vision while adopting some of the techniques of the other camps to gather and display the data.

4. Readers familiar with the current debate over metaphor and trope in organizational theory should be warned that the use of the terms in semiotics differs from their use in the writings of Morgan (1980) and Pinder and Bourgeois (1983). In organization studies, specific metaphors are generally attended and are considered similar to paradigmatic frames or biases. In semiotics, metaphor and other tropes are understood as processes that generate meaning. The adequacy of any particular meaning generated by a trope is essentially irrelevant to semiotics.
5. The convention used to diagram the structure of the codes is an adaptation of a format used by Eco (1976:55). Other codes with contents different from those discussed here, but with the same structure, are evident in funeral work. For examples, see Barley (1983).
6. A point needs to be made about the relationship between codes as they are discussed in this paper and the better known variants of structuralism. Structural anthropologists (especially Levi-Strauss, 1963, 1976) and structural literary critics (Propp, 1958; Greimas, 1966) propose that the multitude of surface expressions found in a culture's myths, folktales, rituals, and patterns of everyday life are transformations of a limited number of themes. Although the following analysis has the flavor of the structuralist tradition, rather than argue that the themes are deep structures, my view is closer to Eco's (1976: 135) notion of "undercoding." Undercoding is a form of structural replication that occurs when a person infers, from a system

of more finely structured codes, a subsuming code that allows a common interpretation of a variety of communicative expressions.

7. Since funeral directing is an occupation populated by males (Pine, 1975), the masculine form of the third person pronoun will be used throughout the discussion to underscore the demography of the occupation.
8. Spradley (1979a, 1979b) offers an excellent discussion of how ethnosemantic techniques can be used to investigate cultural scenes within one's own society. Ethnosemantics, as developed by the early cognitive anthropologists, consists of a set of eliciting techniques designed first to surface the relevant lexemes in a given semantic domain of the language of the people under study, and then to map the semantic attributes of each lexeme. Cognitive anthropologists hold that the resulting semantic structures correspond to the cultural rules members use to categorize those facets of the physical or social reality covered by the semantic domain. For example, ethnosemanticists have portrayed the rules governing the use of color categories (Conklin, 1955), disease terms (Frake, 1961), and especially kinship terms (Goodenough, 1956); Lounsbury, 1956, 1969). Unsurprisingly, the major techniques used by ethnosemanticists, taxonomic and componential analysis, are modifications of procedures used by structural semanticists. The interested reader should consult Frake (1964), Metzger and Williams (1963), and especially Tyler (1969) for an explanation of classic ethnosemantic techniques such as the use of question "frames."

9. A fourth type of removal would include automobile accidents or cases in which the deceased lived alone and was not discovered for several days after death. The informant's involvement in these situations was quite rare since the removals were typically done by ambulance teams or the health examiner. In both cases, the funeral director would pick up the corpse from the morgue, therefore making the funeral director's task a hospital removal.
10. Previous research on funeral work as an occupation corroborates that maintaining "smoothness" is central among the funeral director's aims (Habenstein, 1962b; Unruh, 1979). In fact, Turner and Edgley (1976) argue that funeral work is a dramaturgical endeavor geared to the production of a "flawless funeral." Whereas the dramaturgical approach suggests that funeral directors create impressions, a semiotic analysis, such as this one, underscores the expressions by which such impressions are created.
11. In semiotic anthropology there is a classic debate about whether it is possible that alternate rule structures can generate the same semantic taxonomy or code (see Burling, 1964; Goody, 1977; Sanday, 1979). No doubt this is a valid criticism that becomes important if one believes that the rules are embedded identically in individuals' minds rather than existing in the social, and thereby intersubjective, milieu. However, if the rules are understood as social in nature, then the criticism becomes impotent for several reasons. First, two newcomers may develop slightly different rules for generating interpretations appropriate for members of the culture in good standing. What is

important for the newcomer's socialization is not the isomorphism of their rules, but the fact that they can both generate the appropriate interpretation. However, if ethnosemantic techniques are employed compulsively (for it is a compulsive methodology), then one can feel fairly safe in stating that one understands how informants organize and interpret their reality. If one's informants are representative of the population one wishes to generalize to, then the mapping should be informative. It follows that the cultural researcher's task is to appreciate the interpretations the insider would promulgate and to be able to predict and communicate what those interpretations might be. Semiotics clearly allows both achievements, and one need not quibble over the precise reality of the coding rules. Such realities are rarely that real.

Bibliography

- Allaire, Y. and M.E. Firsirotu. (1981) Theories of Organizational Culture. Working Paper #13-81. Montreal, PQ: Universite du Quebec a Montreal.
- Barley, S. (1980) Taking the Burdens: The Strategic Role of the Funeral Director. Working Paper #1129-80. Cambridge, MA: Alfred P. Sloan School of Management, MIT.
- Barley, S. (1983) Codes of the Dead: The Semiotics of Funeral Work. Urban Life, 12:3-31
- Barthes, R. (1967) Elements of Semiology. Boston: Beacon Press.
- Becker, H. (1951) The Professional Dance Hall Musician and His Audience. American Journal of Sociology. 57:136-144.
- Becker, H., B. Geer, D. Riesman, and R. Weiss (1968) Institutions and the Person. Chicago: Aldine.
- Bouissac, P. (1976) Circus and Culture. Bloomington, IN: University of Indiana Press.
- Burling, R. (1964) Cognition and Componential Analysis: God's Truth or Hocus Focus. American Anthropologist. 66:20-28.
- Conklin, H. (1955) Hanunoo Color Categories. Southwestern Journal of Anthropology. 11:339-344.
- Culler, J. (1976) Ferdinand de Saussure. Middlesex, England: Penguin.
- Dalton, M. (1959) Men Who Manage. New York: Wiley.
- Dandridge, T., I. Mitroff, and W. Joyce. (1980) Organizational Symbolism: A Topic to Expand Organizational Analysis. Academy of Management Review. 5:77-82.
- Dyer, G. (1982) Culture in Organizations: A Case Study and Analysis. Working Paper #1279-82. Cambridge, MA: Sloan School of Management, MIT.
- Eco, U. (1976) A Theory of Semiotics. Bloomington, IN: University of Indiana Press.
- Frake, C. (1964) Notes on Queries in Ethnography. American Anthropologist 66:132-145.
- Frake, C. (1961) The Diagnosis of Disease Among the Subanum of Mindanao American Anthropologist. 63:113-132.

- Geertz, C. (1973) The Interpretation of Cultures. New York: Basic Books.
- Glaser, B., and A. Strauss. (1967) The Discovery of Grounded Theory: Strategies for Qualitative Research. Chicago: Aldine.
- Goffman, E. (1981) Forms of Talk. Philadelphia: University of Philadelphia.
- Goffman, E. (1974) Frame Analysis. New York: Harper and Row.
- Goodenough, W. (1981) Culture, Language, and Society. Menlo Park: Benjamin/Cummings.
- Goodenough, W.H. (1956) Componential Analysis and the Study of Meaning. Language. 32:195-216.
- Goody, J. (1977) Literacy and Classification: On Turning the Tables. In R.K. Jain (ed.) Text and Context: The Social Anthropology of Tradition. Philadelphia: Philadelphia Institute for the Study of Human Issues.
- Gouldner, A. (1954) Patterns of Industrial Bureaucracy. Glencoe IL: Free Press.
- Greimas, A. (1966) Semantique Structurale. Paris: Larousse.
- Habenstein, R. (1962a) Conflicting Organization Patterns in Funeral Directing. Human Organization. 21:126-132.
- Habenstein, R. (1962b) Sociology of Occupations: The Case of the American Funeral Director. In A. Rose (ed.) Human Behavior and Social Processes. Boston: Houghton-Mifflin.
- Hawkes, T. (1977) Structuralism and Semiotics. Berkeley, CA: University of California Press.
- Hughes, E. (1971) The Sociological Eye. Chicago: Aldine.
- Hughes, E. (1958) Men and Their Work. Glencoe, IL: Free Press.
- Jacobson, R. and M. Halle. (1956) The Fundamentals of Language. The Hague: Mouton.
- Kanter, R. (1977) Men and Women of the Corporation. New York: Basic Books.
- Kay, P. (1969) Comments on Colby. In S.A. Tyler (ed.) Cognitive Anthropology, 78-90. New York: Holt, Rinehart & Winston.
- Leach, E. (1976) Culture and Communication. Cambridge: Cambridge University Press.
- Lemert, C. (1979) Language, Structure and Measurement: Structuralist Semiotics and Sociology. American Journal of Sociology. 84:929-957.

- Levi-Strauss, C. (1963, 1976) Structural Anthropology. Vols. 1 and 2.
- Louis, M. (1983) Organizations as Culture Bearing Milieux. In L.R. Pondy, P.J. Frost, G. Morgan and T.C. Dandridge (eds.) Organization Symbolism. Greenwich, CT: JAI Press.
- Lounsbury, F. (1969) The Structural Analysis of Kinship Semantics. In S. Tyler (ed.) Cognitive Anthropology. New York: Holt, Rinehart & Winston.
- Lounsbury, F. (1956) A Semantic Analysis of Pawnee Kinship Usage. Language 32:158-194.
- Manning, P. (1979a) Metaphors of the Field: Varieties of Organizational Discourse. Administrative Science Quarterly. 24:660-671.
- Manning, P. (1979b) Semiotics and Loosely Coupled Organizations. Unpublished Manuscript, Department of Sociology, Michigan State University.
- Manning, P. (1977) Police Work. Cambridge, MA: MIT Press.
- Martin, J. (1982) Stories and Scripts in Organizational Settings. In A. Hastorf and I. Isen (eds.) Cognitive Social Psychology. New York: Elsevier - North Holland.
- Metzer, D. and G. Williams. (1963) A Formal Ethnographic Analysis of Tenejapa Ladino Weddings. American Anthropologist. 65:1076-1101.
- Meyer, J. and B. Rowan. (1977) Institutionalized Organizations: Formal Structure as Myth and Ceremony. American Journal of Sociology. 83:340-363.
- Mitroff, I. and R. Mason (1981) Dialectical Pragmatism: A Progress Report on an Interdisciplinary Program of Research on Dialectical Inquiring systems. Synthese. 47:29-42.
- Morgan, G. (1980) Paradigms, Metaphors, and Puzzle Solving in Organizational Theory. Administrative Science Quarterly. 25:605-622.
- Morris, C. (1964) Signification and Significance. Cambridge, MA: MIT Press.
- Morris, C. (1938) Foundations of the Theory of Signs. In O. Neurath et al. (eds.) International Encyclopedia of Unified Science, 1:79-137. Chicago: University of Chicago Press.

- Pettigrew, A. (1979) On Studying Organizational Cultures. Administrative Science Quarterly. 24:570-582.
- Pettigrew, A. (1973) The Politics of Organizational Decision Making. London: Tavistock.
- Pfeffer, J. (1981) Management as Symbolic Action: The Creation and Maintenance of Organizational Paradigms. In G. Staw and L. Cummings (eds.), Research in Organizational Behavior. 3:1-52. Greenwich, CT: JAI Press.
- Pierce, C. (1931-1958) Collected Papers of Charles Sanders Pierce. Cambridge, MA: Harvard University Press.
- Pinder, C. and Bourgeois, V.W. (1982) Controlling Tropes in Administrative Science. Administrative Science Quarterly. 27:641-652.
- Pine, V. (1975) Caretaker of the Dead: The American Funeral Director. New York: Irving.
- Pondy, L. (1978) "Leadership is a Language Game." In M.W. McCall and M.M. Lombardo (eds.) Leadership: Where Else Can We Go? 87-99. Durham, NC: Duke University Press.
- Propp, V. (1958) Morphology of the Folktale. Austin: University of Texas Press.
- Roy, D. (1961) Bananatime; Job Satisfaction; and Informal Interaction Human Organization. 18:158-168.
- Salaman, G. (1974) Community and Occupation. London: Cambridge University Press.
- Sanday, P. (1979) The Ethnographic Paradigm(s). Administrative Science Quarterly. 24:527-538
- Saussure, F. De. (1966:1916) Course in General Linguistics. C. Baily et al. (eds.) New York: McGraw Hill.
- Schein, E. (1983) Organizational Culture: A Dynamic Model. Sloan School of Management, MIT. Unpublished Paper.
- Schein, E. (1981) On Organizational Culture. MIT. Unpublished Manuscript.
- Schwartz, B. (1981) Vertical Classification: A Study in Structuralism and the Sociology of Knowledge. Chicago: University of Chicago Press.
- Schwartz, H., and S. Davis. (1981) Matching Corporate Culture and Business Strategy. Organizational Dynamics, Summer: 30-48.
- Sebeok, T. (ed.) (1976) Contributions to the Doctrine of Signs. Bloomington, IN: Indiana University Press.

- Selznick, P. (1949) TVA and the Grass Roots. Berkeley: University of California Press.
- Siehl, C., and J. Martin. (1981) Learning Organizational Culture. Unpublished Manuscript. Palo Alto, CA: Stanford University Business School.
- Silverman, D. (1971) The Theory of Organizations. New York: Basic Books.
- Spradley, J. (1979a) Participant Observation. New York: Holt, Rinehart & Winston.
- Spradley, J. (1979b) The Ethnographic Interview. New York: Holt, Rinehart & Winston.
- Spradley, J. (1972) Culture and Cognition. San Francisco: Chandler.
- Strauss, A., L. Schatzman, R. Bucher, D. Ehrlich, and M. Sabshin (1964) Psychiatric Ideologies and Institutions. Glencoe IL: Free Press.
- Turner, R. and C. Edgley. (1976) Death and Theatre: A Dramaturgical Analysis of the American Funeral. Sociology and Social Research. 60:377-392.
- Tway, P. (1976a) Verbal and Non-Verbal Communication of Factory Workers. Semiotica. 16:29-44.
- Tway, P. (1976b) Cognitive Processes and Linguistic Forms of Factory Workers. Semiotica. 17:12-30.
- Tyler, S. (1969) Cognitive Anthropology. New York: Holt, Rinehart & Winston.
- Van Maanen, J. (forthcoming) Doing New Things in Old Ways: The Chains of Socialization. Journal of Higher Education.
- Van Maanen, J. (1982) The Boss: First Line Supervision in an American Police Agency. In M. Punch (ed.) Control in Police Organizations Cambridge, MA MIT Press.
- Van Maanen, J. (1978) The Asshole. In P.K. Manning and J. Van Maanen (eds.) Policing: A View from the Streets, 221-238. Santa Monica, CA: Goodyear.
- Van Maanen, J. (1977) Experiencing organizations: Notes on the Meaning of Careers and Socialization. In J. Van Maanen (ed.) Organizational Careers: Some New Perspectives. New York: Wiley.
- Van Maanen, J. (1976) Breaking-In: Socialization to Work. In R. Dubin (ed.) Handbook of Work, Organization and Society. Chicago: Rand McNally.

- Van Maanen, J., and S. Barley. (Forthcoming) Occupational Communities: Culture and Control in Organizations. In B. Staw and L. Cummings (eds.) Research in Organization Behavior. Vol. 6. Greenwich, CT: JAI Press.
- Unruh, D. (1979) Doing Funeral Directing: Managing Sources of Risk in Funeralization. Urban Life. 8;247-263.
- Weick, K. (1979) The Social Psychology of Organizing. Reading, MA: Addison-Wesley
- Wilkins, A. (1980) Organizational Stories as Symbols which Control Organizations. Unpublished Manuscript. Department of Organizational Behavior, Brigham Young University.

AD0020

ENCLOSURES:

DTIC FORM 50 (1 set)
DD FORM 1473 (2 copies)

* WITH TECHNICAL REPORT(S)

AD0045

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

AD0075

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

AD0090

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

AD0100

DEFENSE TECH. INFORMATION CTR.
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

AD0325

OFFICE OF NAVAL RESEARCH
CODE 442.1
370 NORTH QUINCY STREET
ARLINGTON, VA 22217

AD0410

NAVAL RESEARCH LABORATORY
CODE 2627
WASHINGTON, DC 20375

AD0120

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

AD0150

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

AD0180

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

AD0190

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

AD0200

LIBRARY OF CONGRESS
SCIENCE & TECHNOLOGY DIV.
WASHINGTON, DC 20540

AD0350

OFFICE OF NAVAL RESEARCH
CODE 442.1
370 NORTH QUINCY STREET
ARLINGTON, VA 22217

AD0420

NAVAL RESEARCH LABORATORY
CODE 2627
WASHINGTON, DC 20375

A 0045

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

A 0055

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

A 0065

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

A 0096

DEFENSE TECHNICAL INFORMATION CT
ATTN: DTIC DDA-2
SELECTION & PRELIMINARY
CATALOGUING SECTION
CAMERON STATION
ALEXANDRIA, VA 22314

A 0300

OFFICE OF NAVAL RESEARCH
CODE 4420E
370 NORTH QUINCY STREET
ARLINGTON, VA 22217

A 0400

NAVAL RESEARCH LABORATORY
CODE 2627
WASHINGTON, DC 20375

A 0430

NAVAL RESEARCH LABORATORY
CODE 2627
WASHINGTON, DC 20375

AC0440
NAVAL RESEARCH LABORATORY
CODE 2327
WASHINGTON, DC 20375

AC0200
PSYCHOLOGIST
DR. WESTERN REGIONAL OFFICE
1730 EAST GREEN STREET
PASADENA, CA 91106

AC0200
DIRECTOR
CIVILIAN PERSONNEL DIV. (OP-14)
DEPT. OF THE NAVY
1803 ARLINGTON ANNEX
WASHINGTON, DC 20350

AC0600
CHIEF OF NAVAL OPERATIONS
ASST. PERSONNEL LOGISTICS
PLANNING (OP-9676)
THE PENTAGON, 50772
WASHINGTON, DC 20350

AC0300
NAVAL MATERIAL COMMAND
NAVAT-01K (F. GALE)
235 (SNL)
CRYSTAL PLAZA #5
ROOM 236
WASHINGTON, DC 20350

AC0600
COMMANDING OFFICER
NAVAL PERSONNEL R&D CENTER
SAN DIEGO, CA 92152

AC0675
DR. ROBERT PENN
CODE 307
NAVAL PERSONNEL R&D CENTER
SAN DIEGO, CA 92152

AC0450
NAVAL RESEARCH LABORATORY
CODE 2627
WASHINGTON, DC 20375

AC0300
DR. JAMES LESTER
OFFICE OF NAVAL RESEARCH
DETACHMENT BOSTON
495 SUMMIT STREET
BOSTON, MA 02214

AC0300
DEPUTY CHIEF OF NAVAL OPFRS.
DIRECTOR, HUMAN RESOURCE MGMT.
PLANS & POLICY BRANCH (OP-150)
DEPT. OF THE NAVY
WASHINGTON, DC 20350

AC0100
PROGRAM ADMINISTRATOR FOR
MANPOWER, PERSONNEL & TRNG.
NAVAT 0722 (A. RUBENSTEIN)
800 NORTH QUINCY STREET
ARLINGTON, VA 22217

AC0400
NAVAL MATERIAL COMMAND
NAVAT-01K5 (F. GALE)
CASN (SNL)
CRYSTAL PLAZA #5
ROOM 236
WASHINGTON, DC 20360

AC0600
COMMANDING OFFICER
NAVAL PERSONNEL R&D CENTER
SAN DIEGO, CA 92152

AC0600
DR. ED Aiken
CODE 307
NAVAL PERSONNEL R&D CENTER
SAN DIEGO, CA 92152

AC0500
OFFICE OF NAVAL RESEARCH
DIRECTOR, TECHNOLOGY PROGS.
CODE 209
900 NORTH QUINCY STREET
ARLINGTON, VA 22217

AC0100
DEPUTY CHIEF OF NAVAL OPERATIONS
HEAD, RESEARCH, DEVEL. &
STUDIES BRANCH (OP-115)
1812 ARLINGTON ANNEX
WASHINGTON, DC 20350

AC0500
CHIEF OF NAVAL OPERATIONS
HEAD, MANPOWER, PERSONNEL
TRAINING & RESERVES TEAM
(OP-9540)
THE PENTAGON, 44474
WASHINGTON, DC 20350

AC0200
NAVAL MATERIAL COMMAND
MANAGEMENT TRAINING CENTER
NAVAT 0312
JEFFERSON PLAZA, BLDG 2, RM. 150
1421 JEFFERSON GAVIS HIGHWAY
ARLINGTON, VA 20360

AC0500
NAVAL MATERIAL COMMAND
NAVAT-03 (J.E. COLVARD)
CRYSTAL PLAZA #5
ROOM 236
WASHINGTON, DC 20350

AC0600
COMMANDING OFFICER
NAVAL PERSONNEL R&D CENTER
SAN DIEGO, CA 92152

AC0700
NAVY PERSONNEL R&D CENTER
WASHINGTON LIAISON OFFICE
BUILDING 200, 2N
WASHINGTON NAVY YARD
WASHINGTON, DC 20374

EO0100
COMMANDING OFFICER
NAVAL HEALTH RESEARCH CENTER
SAN DIEGO, CA 92152

EO0400
DIRECTOR, MEDICAL SERVICE CORPS
BUREAU OF MEDICINE & SURGERY
CODE 23
DEPT. OF THE NAVY
WASHINGTON, DC 20372

EO0700
NAVY MEDICAL R&D COMMAND
ATTN: CODE 44
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MD 20014

EO0500
SUPERINTENDENT
NAVAL POSTGRADUATE SCHOOL
CODE 1424
MONTEREY, CA 93940

EO0700
PROF. CARSON K. EYALOG
NAVAL POSTGRADUATE SCHOOL
CODE 5400
DEPT. OF ADMIN. SCIENCES
MONTEREY, CA 93940

EO0200
OFFICER IN CHARGE
HUMAN RESOURCE MGMT. DETACHMENT
NAVAL SUBMARINE BASE
NEW LONDON, CT 06340

EO0500
COMMANDER IN CHIEF
HUMAN RESOURCE MGMT. DIV.
J. S. PACIFIC FLEET
PEARL HARBOR, HI 96860

EO0200
CAP. WILLIAM S. MAYNARD
PSYCHOLOGY DEPT.
NAVAL REGIONAL MEDICAL CENTER
SAN DIEGO, CA 92134

EO0500
NAVAL AEROSPACE MEDICAL
RESEARCH LAB
NAVAL AIR STATION
PENSACOLA, FL 32508

EO0100
NAVAL POSTGRADUATE SCHOOL
(CODE 111)
ATTN: DR. RICHARD S. ELSTER
DEPT. OF ADM. SCIENCES
MONTEREY, CA 93940

EO0500
NAVAL POSTGRADUATE SCHOOL
ATTN: DR. RICHARD A. MCGONICAL
CODE 54
MONTEREY, CA 93940

EO0500
SUPERINTENDENT
ATTN: DIRECTOR OF RESEARCH
NAVAL ACADEMY, U.S.
ANNAPOLIS, MD 21402

EO0300
OFFICER IN CHARGE
HUMAN RESOURCE MGMT. DIV.
NAVAL AIR STATION
PAYPORT, FL 32228

EO0500
OFFICER IN CHARGE
HUMAN RESOURCE MGMT. DETACHMENT
NAVAL BASE
CHARLESTON, SC 29408

EO0300
NAVAL SUBMARINE MEDICAL
RESEARCH LABORATORY
NAVAL SUBMARINE BASE
NEW LONDON, CT 06340

EO0500
PROGRAM MANAGER FOR HUMAN
PERFORMANCE (CODE 44)
NAVAL MEDICAL R&D COMMAND
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MD 20014

EO0200
NAVAL POSTGRADUATE SCHOOL
ATTN: PROF. JOHN SINGER
OPERATIONS RESEARCH &
ADMINISTRATIVE SCIENCE
MONTEREY, CA 93940

EO0600
J.S. NAVAL ACADEMY
ATTN: CDR. J. W. MCGRATH
DEPT. OF LEADERSHIP & LAW
ANNAPOLIS, MD 21402

EO0300
OFFICER IN CHARGE
HUMAN RESOURCE MANAGEMENT
DETACHMENT
NAVAL AIR STATION
ALAMEDA, CA 94591

EO0400
COMMANDING OFFICER
HUMAN RESOURCE MGMT. CENTER
PEARL HARBOR, HI 96860

EO0700
COMMANDING OFFICER
HUMAN RESOURCE MGMT. SCHOOL
NAVAL AIR STATION MEMPHIS
MILLINGTON, TN 38054

002960
HUMAN RESOURCE MGMT. SCHOOL
NAVAL AIR STATION MEMPHIS (95)
WILLINGTON, TN 38154

000600
COMMANDING OFFICER
HUMAN RESOURCE MGMT. CENTER
1500 WILSON BLVD.
ARLINGTON, VA 22209

001000
COMMANDING OFFICER
HUMAN RESOURCE MGMT. CTR.
5521-23 TIDEWATER DRIVE
NOFOLK, VA 23511

001100
COMMANDER IN CHIEF
HUMAN RESOURCE MGMT. DIV.
J. S. ATLANTIC FLEET
NOFOLK, VA 23511

001200
OFFICER IN CHARGE
HUMAN RESOURCE MGMT. DETACHMENT
NAVAL AIR STATION MIDWAY ISLAND
OAK HARBOR, VA 39279

001300
COMMANDING OFFICER
HUMAN RESOURCE MGMT. CTR.
BOX 23
FPO NEW YORK, NY 09510

001400
COMMANDER IN CHIEF
HUMAN RESOURCE MANAGEMENT DIV.
J.S. NAVAL FORCE EUROPE
FPO NEW YORK, NY 09510

001500
OFFICER IN CHARGE
HUMAN RESOURCE MGMT. DETACHMENT
BOX 6
FPO SAN FRANCISCO, CA 95651

001600
OFFICER IN CHARGE
HUMAN RESOURCE MGMT. DETACHMENT
COMNAVFORJAPAN
FPO SEATTLE, WA 98752

001000
NAVAL MILITARY PERSONNEL COM.
ARM DEPARTMENT (NMPC-6)
WASHINGTON, DC 20350

400125
NAVAL MILITARY PERSONNEL
ARM DEPARTMENT (NMPC-6)
WASHINGTON, DC 20350

400200
NAVAL TRAINING ANALYSIS &
EVALUATION GROUP
ORLANDO, FL 32813

000300
COMMANDING OFFICER
ATTN: TIC, BLDG. 2060
NAVAL TRAINING EQUIPMENT CTR.
ORLANDO, FL 32813

000400
CHIEF OF NAVAL EDUCATION
& TRAINING (N-5)
DIRECTOR, RESEARCH DEVEL.,
TEST & EVALUATION
NAVAL AIR STATION
PENSACOLA, FL 32508

400500
CHIEF OF NAVAL TECHNICAL TRAINING
ATTN: DR. NORMAN KERR, CODE 017
NAS MEMPHIS (75)
WILLINGTON, TN 38054

000600
NAVY RECRUITING COMMAND
HEAD, RES. & ANALYSIS BR.
CODE 434, ROOM 801
911 NORTH RANDOLPH STREET
ARLINGTON, VA 22203

400700
COMMANDING OFFICER
USS CARL VINSON (CVN-70)
NEWPORT NEWS SHIPBUILDING &
DRYDOCK COMPANY
NEWPORT NEWS, VA 23607

400800
NAVAL WEAPONS CENTER
CODE 094
(C. ERICKSON)
CHINA LAKE, CA 93555

000900
JESSE ORLANDAY
1. STATUTE FOR DEFENSE
ANALYSES
1401 NORTH BEAUFORT ST.
ALEXANDRIA, VA 22311

401000
NAVY HEALTH RESEARCH CENTER
TECHNICAL DIRECTOR
P.O. BOX 95122
SAN DIEGO, CA 92134

100100
HEADQUARTERS, J.S. MARINE CORPS
CODE MPI-20
WASHINGTON, DC 20380

100200
HEADQUARTERS, U.S. MARINE CORPS
ATTN: DR. A. L. SLAFKOSKY
CODE RD-1
WASHINGTON, DC 20360

100500
COMMANDING OFFICER
J.S. MARINE CORPS
COMMAND & STAFF COLLEGE
QUANTICO, VA 22134

J00130
DEFENSE ADVANCED RESEARCH
PROJECTS AGENCY
DIRECTOR, CYBERNETICS
TECHNOLOGY OFFICE
1400 WILSON BLVD., RM. 625
ARLINGTON, VA 22209

K00100
DR. DOUGLAS HUNTER
DEFENSE INTELLIGENCE SCHOOL
WASHINGTON, DC 20374

K00400
NATIONAL INSTITUTE OF
MENTAL HEALTH
DIVISION OF EXTRAMURAL
RESEARCH PROGRAMS
3600 FISHERS LANE
ROCKVILLE, MD 20852

K00700
OFFICE OF PERSONNEL MANAGEMENT
ATTN: MS. CAROLYN BURSTEIN
1900 F STREET, N.W.
WASHINGTON, DC 20415

K01000
SOCIAL & DEVELOPMENTAL
PSYCHOLOGY PROGRAM
NATIONAL SCIENCE FDN.
WASHINGTON, DC 20550

100500
EDUCATION ADVISOR
EDUCATION CENTER (E031)
MCDEC
QUANTICO, VA 22134

J00100
DEFENSE ADVANCED RESEARCH
PROJECTS AGENCY
DIRECTOR, CYBERNETICS
TECHNOLOGY OFFICE
1400 WILSON BLVD., RM. 625
ARLINGTON, VA 22209

J00200
MR. MICHAEL A. DANIELS
INTERNATIONAL PUBLIC POLICY
RESEARCH CORP.
6945 ELM STREET, SUITE 212
MCLEAN, VA 22101

K00200
DR. BRIAN USILANER
G40
WASHINGTON, DC 20548

K00500
NATIONAL INSTITUTE OF
MENTAL HEALTH
PRIORITY GROUP MENTAL
HEALTH PROGRAMS
ROOM 7-112
5500 FISHERS LANE
ROCKVILLE, MD 20852

K00600
CHIEF, PSYCHOLOGICAL RES. BR.
ATTN: MR. RICHARD LANIERMAN
U.S. COAST GUARD
(G-P-1/2/1P42)
WASHINGTON, DC 20593

L00100
HEADQUARTERS, FORSCOM
ATTN: AFPR-TR
FORT MCPHERSON, GA 31300

I 040
COMMANDING OFFICER
EDUCATION CENTER (E031)
MCDEC
QUANTICO, VA 22134

J 0120
DEFENSE ADVANCED RESEARCH
PROJECTS AGENCY
DIRECTOR, CYBERNETICS
TECHNOLOGY OFFICE
1400 WILSON BLVD., RM. 625
ARLINGTON, VA 22209

J 0300
DR. A. F. G. ORSAVSKI
CENTER FOR POLITICAL STUDIES
INSTITUTE FOR SOCIAL RESEARCH
UNIV. OF MICHIGAN
ANN ARBOR, MI 48106

K 0300
NATIONAL INSTITUTE OF EDUC.
ATTN: DR. FRITZ MULLHAUSER
EOLC-SW3
1200 19TH STREET, N.W.
WASHINGTON, DC 20208

K 0600
OFFICE OF PERSONNEL MGMT.
OFFICE OF PLANNING &
EVALUATION
RESEARCH MGMT. DIV.
1906 E STREET, N.W.
WASHINGTON, DC 20415

K00950
DR. EARL POTTER
J.S. COAST GUARD ACADEMY
NEW LONDON, CT 06320

L 0200
ARMY RESEARCH INSTITUTE
FIELD UNIT - LEAVENWORTH
P. O. BOX 3122
FORT LEAVENWORTH, KS 66027

LO0310
TECHNICAL DIRECTOR
ARMY RESEARCH INSTITUTE
501 EISENHOWER AVENUE
ALEXANDRIA, VA 22333

LO0310
DIRECTOR
SYSTEMS RESEARCH LABORATORY
501 EISENHOWER AVENUE
ALEXANDRIA, VA 22333

LO0310
DIRECTOR
ARMY RESEARCH INSTITUTE
TRAINING RESEARCH LABORATORY
501 EISENHOWER AVENUE
ALEXANDRIA, VA 22333

LO0500
DR. T. O. JACOBS
CODE PERM-1H
ARMY RESEARCH INSTITUTE
501 EISENHOWER AVENUE
ALEXANDRIA, VA 22333

LO0500
COL. HOWARD PRINCE
HEAD, DEPARTMENT OF BEHAVIOR
SCIENCE AND LEADERSHIP
U.S. MILITARY ACADEMY, NY 10996

MO0100
AIR UNIVERSITY LIBRARY
LSE 75-493
MAXWELL AFB, AL 36112

MO0200
COL. JOHN W. WILLIAMS, JR.
HEAD, DEPT. OF BEHAVIORAL
SCIENCE & LEADERSHIP
U.S. AIR FORCE ACADEMY, CO 80840

MO0300
MAJ. ROBERT GREGORY
USAF/OFBL
U.S. AIR FORCE ACADEMY, CO
80840

MO0400
DR. FREGLY
AFOSR/NL
BUILDING 410
BOLLING AFB
WASHINGTON, DC 20332

MO0500
DEPT. OF THE AIR FORCE
44J. ROSSART
44USAF/MFXHL
THE PENTAGON
WASHINGTON, DC 20330

MO0600
TECHNICAL DIRECTOR
AFRL/HQIT
BROOKS AFB
SAN ANTONIO, TX 78235

MO0700
AFMPC/MPCTPR
RANDOLPH AFB, TX 78150

MO0800
AUSTRALIAN EMBASSY
OFFICE OF THE AIR ATTACHE (S3B)
1001 MASSACHUSETTS AVE., N.W.
WASHINGTON, DC 20036

MO0900
BRITISH EMBASSY
SCIENTIFIC INFORMATION OFFICER
ROOM 505
3100 MASSACHUSETTS AVE., N.W.
WASHINGTON, DC 20008

MO0300
CANADIAN DEFENSE LIAISON STAFF
WASHINGTON
ATTN: C3D
2450 MASSACHUSETTS AVE., N.W.
WASHINGTON, DC 20008

MO0350
DR. GERALD W. STOFFER, USA
FEDERAL AEROSPACE MEDICAL INST.
CODE 11
NAVAL AIR STATION
PENSACOLA, FL 32506

MO0400
LOWLAND, ROYAL MILITARY
COLLEGE OF CANADA
ATTN: CHIEF OF MILITARY
LEADERSHIP & MGMT.
KINGSTON, ONTARIO
CANADA K7L 2L3

MO0500
NATIONAL DEFENCE HEADQUARTERS
ATTN: DPAR
OTTAWA, ONTARIO
CANADA K1A 0K2

MO0500
440 -UIG1 PETRULLO
2431 NORTH EDGEWOOD STREET
BALTIMORE, VA 22217

MO0700
DR. CLAYTON P. ALDENFER
YALE UNIVERSITY
SCHOOL OF ORGANIZATION
AND MANAGEMENT
NEW HAVEN, CT 06520

MO0800
DR. RICHARD D. ARVEY
UNIVERSITY OF HOUSTON
DEPT. OF PSYCHOLOGY
HOUSTON, TX 77004

00123
DR. F. CRAIG JOHNSON
DEPT. OF EDUCATIONAL RESEARCH
FLORIDA STATE UNIVERSITY
TALLAHASSEE, FL 32306

00140
DR. STUART W. CUCK
INSTITUTE OF BEHAVIORAL
SCIENCES
UNIV. OF COLORADO
BOX 402
BOULDER, CO 80309

00150
DR. L. L. CUMMINGS
KELLOGG GRAD. SCHOOL OF MGMT.
NORTHWESTERN UNIV.
NATHANIEL LEVERONE HALL
EVANSTON, IL 60201

00313
DR. RICHARD DAFT
TEXAS A&M UNIVERSITY
DEPARTMENT OF MANAGEMENT
COLLEGE STATION, TX 77843

003520
RUCE J. BUENO DE MESQUITA
UNIVERSITY OF ROCHESTER
DEPARTMENT OF POLITICAL SCIENCE
ROCHESTER, NY 14627

00660
DR. HENRY EMURIAN
THE JOHNS HOPKINS UNIV.
SCHOOL OF MEDICINE
DEPT. OF PSYCHIATRY &
BEHAVIORAL SCIENCE
BALTIMORE, MD 21205

00703
DR. ARTHUR GERSTENFELD
UNIVERSITY FACULTY ASSOC.
716 COMMONWEALTH AVE.
VENTON, MA 02159

007600
DR. PAUL S. GOODMAN
GRAD. SCHOOL OF INDUSTRIAL
ADMINISTRATION
CARNEGIE-MELLON UNIV.
PITTSBURGH, PA 15213

00900
DR. J. RICHARD HACKMAN
SCHOOL OF ORGANIZATION
AND MANAGEMENT
YALE UNIVERSITY
BOX 1A
NEW HAVEN, CT 06520

00915
DR. JERRY HUNT
COLLEGE OF BUS. ADM.
TEXAS TECH. UNIV. (BOX 4320)
LUBBOCK, TX 79409

00920
DR. PICHARD ILSEY
DEPT. OF PSYCHOLOGICAL
SCIENCES
PUNDUKE UNIVERSITY
WEST LAFAYETTE, IN 47907

00900
DR. LAWRENCE R. JAMES
SCHOOL OF PSYCHOLOGY
GEORGIA INSTITUTE OF
TECHNOLOGY
ATLANTA, GA 30332

001103
DR. ALLAN P. JONES
NAVAL HEALTH RESEARCH CENTER
UNIVERSITY OF HOUSTON
6510 CALHOUN
HOUSTON, TX 77004

001120
DR. SARA KIESLER
CARNEGIE MELLON UNIVERSITY
DEPT. OF SOCIAL SCIENCE
PITTSBURGH, PA 15213

001130
DR. DAN LANDIS
DEPARTMENT OF PSYCHOLOGY
PURDUE UNIVERSITY
INDIANAPOLIS, IN 46205

001203
DR. FRANK J. LANDY
THE PENNSYLVANIA STATE UNIV.
DEPT. OF PSYCHOLOGY
917 BRUCE V. MOORE BLDG.
UNIVERSITY PARK, PA 16802

001300
DR. LINDA LATANE
UNIV. OF NORTH CAROLINA AT
CHAPEL HILL
FARMING HALL 026A
CHAPEL HILL, NC 27514

001400
DR. EDWARD E. LAWLER
UNIV. OF SOUTHERN CALIFORNIA
GRADUATE SCHOOL OF BUSINESS
ADMINISTRATION
LOS ANGELES, CA 90007

001500
DR. EDWIN A. LOCKE
COLLEGE OF BUSINESS & MGMT.
UNIV. OF MARYLAND
COLLEGE PARK, MD 20742

001600
DR. FRED LUTHAKE
REGENTS PROF. OF MANAGEMENT
UNIV. OF VERMONT, LINCOLN
LINCOLN, VT 05858

001700
DR. M. R. MACKIE
HUMAN FACTORS RESEARCH
CANYON RESEARCH GROUP
5775 DAWSON STREET
SOLITA, CA 93117

002000

DR. WILLIAM M. MURLEY
COLLEGE OF BUSINESS ADMIN.
TEXAS A&M UNIVERSITY
COLLEGE STATION, TX 77843

002000

DR. WILLIAM G. DUCHI
UNIV. OF CALIFORNIA, LOS ANGELES
GRAD. SCHOOL OF MANAGEMENT
LOS ANGELES, CA 90024

002200

DR. BENJAMIN SCHNEIDER
DEPT. OF PSYCHOLOGY
UNIVERSITY OF MARYLAND
COLLEGE PARK, MD 20742

002500

DR. RICHARD M. STEERS
GRAD. SCHOOL OF MANAGEMENT
UNIV. OF OREGON
EUGENE, OR 97403

002900

DR. MARY C. TRIANDIS
DEPT. OF PSYCHOLOGY
UNIV. OF ILLINOIS
CHAMPAIGN, IL 61820

003200

DR. ROBERT HAYLES
DEPT. OF THE NAVY
OFFICE OF NAVAL RESEARCH
ORGANIZATIONAL EFFECTIVENESS
RESEARCH PROGRAMS
ARLINGTON, VA 22217

003400

OFFICE OF NAVAL RESEARCH
EVC REGIONAL OFFICE
BUILDING 114, SECTION D
306 SUMMIT STREET
AUSTON, MA 02210

001800

DR. LYNN OPPENHEIM
HARTON APPLIED RESEARCH CTR.
UNIVERSITY OF PENNSYLVANIA
PHILADELPHIA, PA 19104

002000

DR. CHARLES PERROW
YALE UNIVERSITY
I.S.S.
111 PROSPECT AVENUE
NEW HAVEN, CT 06520

002300

DR. NED SEELYE
INTERNATIONAL RESOURCE
DEVELOPMENT, INC.
P.O. BOX 721
LA GRANGE, IL 60525

002700

DR. SIEGFRIED STREUFERT
THE PENNSYLVANIA STATE UNIV.
DEPT. OF BEHAVIORAL SCIENCE
MILTON S. HERSHEY MEDICAL CENTER
HERSHEY, PA 17033

003100

DR. HOWARD M. WEISS
PURDUE UNIVERSITY
DEPT. OF PSYCHOLOGICAL SCIENCES
WEST LAFAYETTE, IN 47907

003200

DR. ROBERT HAYLES
DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
ORGANIZATIONAL EFFECTIVENESS
RESEARCH PROGRAMS
ARLINGTON, VA 22217

003400

MAJ. R. HARRIS
COMMANDANT
HEADQUARTERS, MARINE CORPS
WPI-20, ROOM 4025
WASHINGTON, DC 20380

001900

DR. THOMAS M. OSTROM
THE OHIO STATE UNIV.
DEPT. OF PSYCHOLOGY
116E STADIUM
404C WEST 17TH AVENUE
COLUMBUS, OH 43210

002100

DR. IRVIN S. SARASON
UNIV. OF WASHINGTON
DEPT. OF PSYCHOLOGY, NI-25
SEATTLE, WA 98195

002400

DR. H. WALLACE SIVAKO
PROGRAM DIRECTOR, MANPOWER
RESEARCH AND ADVISORY SERVICES
SMITHSONIAN INSTITUTION
801 N. PITT ST., SUITE 120
ALEXANDRIA, VA 22314

002800

DR. JAMES R. TERBORG
UNIV. OF OREGON, WEST CAMPUS
DEPT. OF MANAGEMENT
EUGENE, OR 97403

003100

DR. PHILIP S. ZIMBARDO
STANFORD UNIVERSITY
DEPT. OF PSYCHOLOGY
STANFORD, CA 94305

003300

MR. DENNIS J. REYNOLDS
ADMINISTRATIVE CONTRACT OFFICER
OFFICE OF NAVAL RESEARCH
WIT
ROOM C19-608
CAMBRIDGE, MA 02139

003600

MAJ. R. HARRIS
COMMANDANT
HEADQUARTERS, MARINE CORPS
WPI-20, ROOM 4025
WASHINGTON, DC 20380

003750
CAPT. A. T. EYLER
DEPT. OF THE NAVY
ARLINGTON ANNEX
DP-15, ROOM 6801
COLUMBIA PIKE
ARLINGTON, VA 20370

003750
CAPT. A. T. EYLER
DEPT. OF THE NAVY
ARLINGTON ANNEX
DP-15, ROOM 6801
COLUMBIA PIKE
ARLINGTON, VA 20370

000100
OFFICE OF NAVAL RESEARCH
RESIDENT REPRESENTATIVE
W.I.T. - E13-523
CAMBRIDGE, MA 02139

000202
DONNA BREEN
OFFICE OF NAVAL RESEARCH
ORGANIZATIONAL EFFECTIVENESS GR.
(CODE 442)
ARLINGTON, VA 22217

002100
ROBERT F. MORRISON, PhD
PERSONNEL RESEARCH PSYCHOLOGIST
DEPARTMENT OF THE NAVY
PERSONNEL RESEARCH & DEVELOPMENT
CENTER
SAN DIEGO, CA 02152

002050
COR. HARDY L. MERRITT
NATIONAL DEFENSE UNIV.
MOBILIZATION CONCEPTS
DEVELOPMENT CENTER
WASHINGTON, DC 20319

002102
LIBRARY
NAVY PERSONNEL R&D CTR.
DEPARTMENT OF THE NAVY
SAN DIEGO, CA 92152

001071
DR. ARTHUR BLAINES
HUMAN FACTORS LABORATORY
CODE N-71
NAVAL TRAINING EQUIP. CTR.
ORLANDO, FL 32813

176 LABELS PRINTED
176 LABELS PRINTED
176 LABELS PRINTED
176 LABELS PRINTED
176 LABELS PRINTED
176 LABELS PRINTED
176 LABELS PRINTED
176 LABELS PRINTED

.....
.....
.....
.....
.....
.....
.....
.....

.....
.....
.....
.....
.....
.....
.....
.....

.....
.....
.....
.....
.....
.....
.....
.....

ATE
LME